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ABSTRACT

"Partners in Augmentative Communication Training" (PACT) is a communication interaction facilitation program for child augmentative technique users and their communication partners. The program offers guidelines for use in developing individualized plans for improving conversational interaction. This resource guide addresses priority communication behaviors, communication assessment, communication intervention, and psychological considerations. "Priority Communication Behaviors" presents a functional outline to view the interaction behaviors of the child and the partner, focusing on communication functions, mode selections, and discourse behaviors. "Communication Assessment Guidelines" introduces procedures for observing the communication attitudes and interaction skills of an augmentative technique user and partner, and includes a Partner Rating Scale, Child Rating Scale, and Interaction Profile. "Communication Intervention Guidelines" offers an intervention plan, child goals, partner goals, language activities, communication experience activities, role plays, etc. The guidelines highlight behaviors of concern and provide strategies to effectively use those behaviors in achieving more functional communication. Concluding chapters focus on psychological assessment and intervention procedures and outline the results of a PACT pilot study involving 11 children with cerebral palsy. (JDD)

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PARTNERS IN AUGMENTATIVE COMMUNICATION TRAINING

A RESOURCE GUIDE FOR

Interaction Facilitation Training for Children

by Delva M. Culp and Margaret Carlisle

EC 212103

P·A·C·T

Partners in Augmentative Communication Training

A Resource Guide for Interaction Facilitation Training for Children

by Delva M. Culp
and Margaret Carlisle

With a chapter by James Stahlecker, Ph.D., Clinical Psychologist, and Linda Kelsey, Ph.D., Clinical Psychologist

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DEDICATION

This book is dedicated to the PACT Pilot Study families for their willingness to strive with us toward the most functional communication possible for all child augmentative technique users.

ACKNOWLEDGMENTS

At the completion of the PACT Pilot Study, one of the child participants, who, prior to the study, had communicatively relied solely on responding to *yes/no* questions, vocally secured my attention and pointed enthusiastically on his communication board first to "Big" and then to "Thank you." Based on this youngster's previous communication experience, his message was an exceedingly meaningful expression of appreciation—one which I want to share with a number of caring individuals whose support has been instrumental to this project.

First, I acknowledge the continued "presence" of my mentor, Margaret Ayelsworth, whose unselfish dedication to and belief in the communicative potential of nonspeaking persons has been ever-inspiring. I express sincere appreciation to Thomas Tighe, Ph.D., Dean of the School of Human Development and Acting Director of Callier Center, and to Sara Haynes, Head of Speech-Language Pathology, Callier Center, for their administrative support and continued commitment to the communicatively handicapped. Our consultants, Craig Allen, David Beukelman, Arlene Kraat, and Jayne Larson, provided creativity and competence at each impasse, greatly enhancing this project.

For their commitment and incredible performance, I extend a particularly "Big thank you" to the PACT Pilot Study staff:

Speech-Language Pathologists:	Jayne Larson, Margaret Carlisle, and Shelly Suggs
Psychologists:	Jim Stahlecker and Linda Kelsey
Physical Therapist:	Melody Borland
Graduate Clinicians:	Melinda Banker, Julie Dunn, Cassandra Hawkins, Carol King, Cathy Long, and Anna Morgan-Fisher

It is with much gratitude that I mention my partner in augmentative communication training and co-author Margaret Carlisle, who has been an insightful colleague and supportive friend.

Finally, my deepest gratitude to the members of my family: my mother, Edna Baldridge; my father, the late J. Philip Baldridge; my husband, Marc Culp; and my daughter, Krista. Each one has contributed love and support to encourage my personal and professional growth.

Delva M. Culp
PACT Project Director

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Margaret Carlisle received her bachelor's degree from Baylor University, Waco Texas, her master's degree from the University of Texas at Dallas, and the C.C.C. from the American Speech-Language-Hearing Association. She is currently a Speech-Language Pathologist at the Baylor Institute for Rehabilitation, where she provides speech and language services to neurologically impaired adolescents and adults. Ms. Carlisle has presented her work at ASHA Conferences and the Council for Exceptional Children. Her responsibilities at the Callier Center for Communication Disorders at the University of Texas at Dallas involved planning, development, and implementation of a training program for child augmentative technique users and their communication partners. This project provided the background for *Partners in Augmentative Communication Training.*

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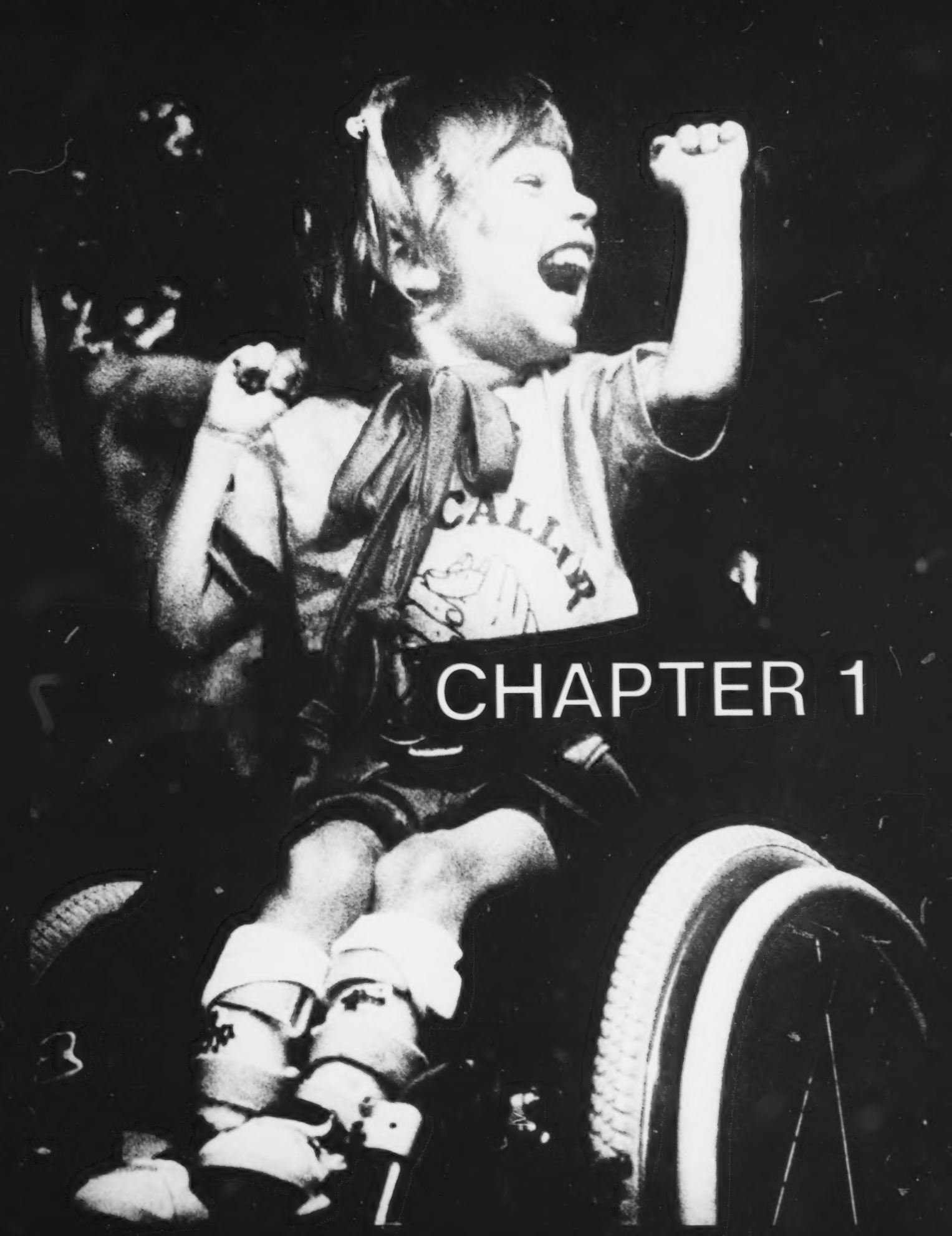
PART I:

Background for Partners in Augmentative Communication Training



CHAPTER 1

CHAPTER 1

Introduction

PURPOSE

Human communication is a remarkable and complex process. When two people converse, the exchange of even basic information involves a myriad of phonologic, semantic, grammatical, pragmatic, and psychosocial variables. When a child uses an augmentative communication technique—a specialized mode of expression such as a language board or a voice synthesizer—the complexity of the conversational process increases dramatically. This increase in complexity challenges children, their communication partners, and their clinicians as they strive together to achieve functional and rewarding conversational communication. In response to this challenge, we have developed *Partners in Augmentative Communication Training* (PACT), a communication interaction facilitation program for child augmentative technique users and their communication partners. The purpose of this chapter is to provide clinicians with the general orientation, rationale, and assumptions incorporated in PACT's development.

THE FIELD OF AUGMENTATIVE COMMUNICATION

Augmentative communication is a new field that has developed rapidly in the past decade. Substantial advancements have been made in technology, research, and clinical practice. Amidst these rapid advancements, terminology has fluctuated and evolved. The definitions in Table 1-1 are adapted from Vanderheiden and Yoder (1986) and Vanderheiden and Lloyd (1986).

TABLE 1-1
Augmentative Communication Terminology/Definitions

Augmentative Techniques—Approaches for communicating that supplement speech. Although normal speakers use many supplementary techniques such as gestures and facial expressions, in this book the term refers only to more *specialized communication approaches* such as specially adapted gesture systems, sign language, communication boards, and electronic aids. These specialized techniques may supplement, facilitate, or occasionally replace natural speech.

Communication System—An integrated network of techniques, skills, and strategies that an individual uses to communicate. Thus, a communication board is typically not a *system*, but rather an isolated *technique* within an integrated network that might also include vocalization, natural speech, or sign language.

Components of Augmentative Techniques—Augmentative techniques involve three basic components: (1) symbols, or representation systems, (2) transmission procedures, or methods for transmitting symbols, and (3) strategies, or ways to use a technique more effectively for a specific purpose.

Dimensions of Augmentative Techniques—Features or capabilities of an augmentative technique that determine its relative advantages within a communication system. Examples: (1) How *functional* is the technique in terms of vocabulary access or speed? (2) How *usable* is the technique in terms of portability or durability? (3) How *acceptable* to the environment is the technique in terms of cosmesis (cosmetic appeal) or training required?

SUMMARY OF AUGMENTATIVE COMMUNICATION INTERACTION RESEARCH

In recent years, clinicians involved in augmentative communication research and practice have begun to obtain more information about the impact of augmentation on communication interaction performance. Although our understanding of this impact remains fragmented, several observations are consistently reported. The following five points are critical regarding augmented interaction.

First, early studies of selected augmented subjects in natural and simulated environments prompted concern about the efficacy of assessment-oriented service delivery models. Such studies have revealed that users whose training was limited to basic instruction in augmentative technique representation and transmission used such techniques infrequently in conversation (Harris 1978; Calculator and Dollaghan 1982; Culp 1982; Light, Collier, and Parnes 1985; Culp, Ambrosi, Berniger, and Mitchell 1986). As a result, there has been growing recognition of a need for more extensive intervention programs (Blackstone 1986; Kraat 1986).

Second, in response to clinical experience and early single- and selected-subject research, clinicians have identified and discussed dramatic effects that the introduction of augmentative techniques appear to have on the conversational process (Yoder and Kraat 1983; Farrier, Yorkston, Marriner, and Beukelman 1985). These effects include many aspects of communication such as rate/rhythm of communication, percentage of successful exchange, degree of eye contact, and perspectives on interpersonal distance. Subsequent to these observations, the augmentative communication process has been recognized as inherently different from the normal conversational process (Kraat 1985; Beukelman 1986).

Third, clinicians have primarily studied augmented conversation in terms of three aspects of interaction: communication functions, mode selections, and discourse characteristics (Kraat 1985). These studies consistently note behaviors that seem to be specific to augmented conversation and hinder functional interaction. Further, in augmentation, the partner's behavior and the communication interaction content appear to contribute substantially to these three aspects of interaction (Kraat 1985; Mathy-Laikko and Yoder 1986). Hence, numerous authors recommend that intervention programs train the augmentative technique user and the primary partner(s) and address functional and natural communication contexts (Blackstone 1986; Kraat 1986; Mathy-Laikko and Yoder 1986).

Fourth, concern has arisen regarding psychological aspects of augmentation and disability. In clinic population studies of the use of augmentative techniques in natural environments, several authors have noted that the rejection of augmentation may be associated with user/family lack of acceptance of the augmentative technique or of the nonspeaking condition (Levy and Strobino 1982; Burke 1986; Culp et al. 1986). Furthermore, in practice, clinicians have questioned relationships between the family's adaptedness to disability and the implementation of augmentative techniques and have discussed the need to address such relationships in intervention programs (Culp and Stahlecker 1986).

Finally, an emerging body of research has focused on the ability to more successfully affect augmented communication interaction with communication training procedures. To date, this limited research suggests that training procedures can substantially improve a variety of interaction behaviors (Calculator and Luchko 1983; Bruno and Bryen 1985; Glennen and Calculator 1985; Light, Rothschild and Parnes 1985) and that development and documentation of additional training procedures and their effects are warranted. Clinicians have stressed that such development must be accomplished in conjunction with careful documentation of training efficacy (Kraat 1985; Blackstone 1986).

DEVELOPMENT OF THE PACT PROGRAM

Based on this contemporary research and clinical experience, these preliminary intervention guidelines are directed toward development of more functional and rewarding conversational interactions for child augmentative technique users and their communication partners. The aforementioned five critical points were carefully considered and the following eight assumptions made:

1. Prescription of augmentative communication techniques should be supported by an intervention program for facilitating conversational communication interaction.
2. Intervention should involve the augmentative technique user and the primary communication partner(s).
3. Intervention should address critical communication needs and pertinent communication contexts.
4. Intervention programs must include assessment guidelines designed to identify target intervention behaviors and to monitor progress.

5. Intervention programs must be individualized to meet the needs and abilities of each augmentative technique user and partner.
6. The general goal of intervention should be to facilitate the most functional communication possible, given the constraints of the augmentative techniques and the user/partner abilities, rather than to mirror normal conversational processes.
7. The specific goals of intervention should address facilitation strategies for communication functions, mode selections, and discourse behaviors.
8. Intervention should address pertinent psychological issues.

Accepting these eight assumptions, PACT was developed as a model intervention program. It offers guidelines and suggestions for clinicians to use as a resource in developing individualized plans for improving conversational interaction between a child augmentative technique user and a partner. The program is directed toward the clinician who is knowledgeable about pragmatics and who is well-versed in child development, language development, and therapeutic procedures. The clinician may or may not have specialized expertise or experience in augmentative communication. An introductory bibliography and a resource list are provided at the end of this chapter for clinicians needing more information. Clinicians are also encouraged to contact augmentative resource centers in their area.

The PACT guidelines were developed to best address the needs of children who

1. Demonstrate a severe expressive communication disorder associated primarily with motor speech impairment
2. Have receptive language abilities judged to be at or above the two-year level
3. Exhibit basic skills in representation and transmission techniques for augmentation.

Thus, it is assumed that before implementation of the PACT program, the child has

1. Been fitted with the appropriate augmentative communication technique(s)
2. Developed knowledge of symbols that provide access to adequate vocabulary for at least *basic* conversation
3. Established a generally reliable means to indicate or transmit those symbols (points to symbols with finger, chinpointer, or lightbeam, or indicates symbol by hitting a switch).

Communication partners appropriate for the PACT program include parents, teachers, siblings, peers, clinicians, or anyone who frequently interacts with the child.

PACT may be used with a variety of augmentative techniques if the clinician is sensitive to the interaction effects of each technique and individualizes the intervention plan accordingly.

PACT COMPONENTS

This resource guide includes chapters on the following components of PACT: Priority Communication Behaviors, Communication Assessment Guidelines, Communication Intervention Guidelines, and Psychological Considerations. The Priority Communication Behaviors identify child and partner function, mode, and discourse behaviors which, based on research and clinical experience, are frequently relevant to augmented conversational interaction. The Communication Assessment and Intervention Guidelines directly address each of the Priority Communication Behaviors. The Psychological Considerations discuss development of mental-health assessment and intervention procedures appropriate for PACT implementation. The final chapter summarizes the communication procedures and results of the PACT Pilot Study. Clinicians should be familiar with the content of each chapter before using the suggested corresponding PACT Materials.

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COMMUNICATION SYSTEM RESOURCES

Augmentative and Alternative Communication
Williams and Wilkens Co.
428 E. Preston Street
Baltimore, MD 21202

Communication Outlook
Artificial Language Lab
Michigan State University
East Lansing, MI 48824

International Society for Augmentative and Alternative Communication (ISAAC)
c/o Susan Sansone
Suffolk Association for Help of Retarded Children
2900 Veterans Memorial Highway
Bohemia, NY 11716

Augmentative Communication News
[Sally Blackstone]
One Surf Way, Suite 215
Monterey, CA 93940

Computer Users in Speech and Hearing
c/o James Fitch
Department of Speech and Audiology
University of Southern Alabama
Mobile, AL 36688

TECHNOLOGY RESOURCES

Trace Research and Development Center
Waisman Center
1500 Highland Avenue
Madison, WI 53706

Rehab Engineering Society of America
4405 E.W. Highway, Suite 402
Bethesda, MD 20814

Assistive Device Center
School of Engineering
California State University
6000 J. Street
Sacramento, CA 95819

Association for Retarded Citizens
2501 Avenue J
Arlington, TX 76011

Closing the Gap
P.O. Box 68
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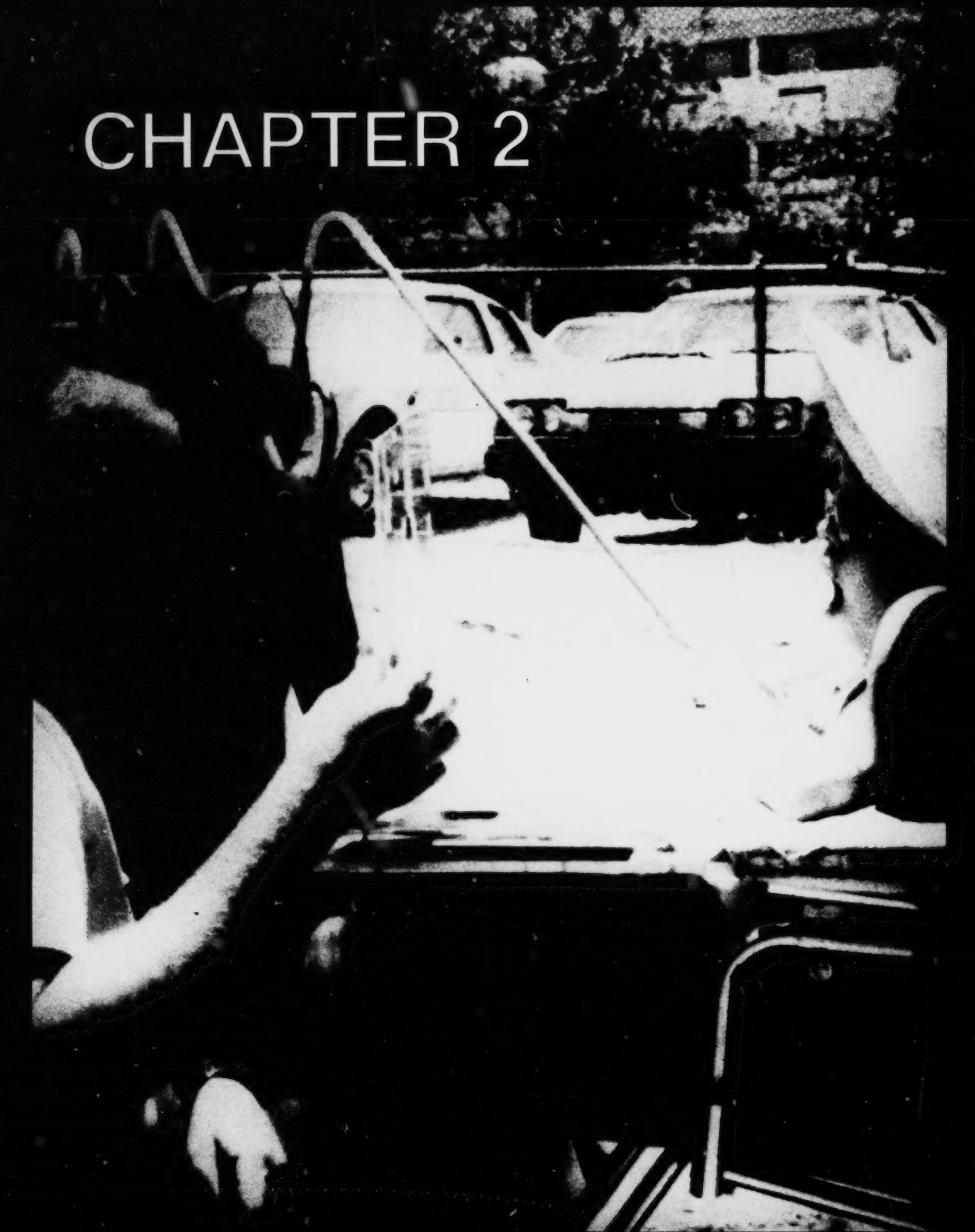
CHAPTER 2



CHAPTER 2

Priority Communication Behaviors

The presence of a specialized augmentative communication technique makes communicating inherently different, not only for the augmentative technique user but for the partner as well (Kraat 1985). Communication behaviors that occur naturally in normal conversational exchanges are altered to accommodate the demands a particular augmentative technique places on the user or partner. An augmentative technique user often has reduced potential for communication due to a very restricted vocabulary imposed by a particular technique or to physical limitations that decrease the rate of communication to a few words per minute. In addition, augmentative technique users may have cognitive, linguistic, psychosocial, and experiential variances that limit communicative potential. Partners participating in augmented interactions will vary, not only in how effectively they can adapt to the presence of augmentation, but in how well they can step out of their role as *listener* and become *negotiator of meaning*, or co-constructor of the user's message (Harris 1982; Kraat 1985).

The Priority Communication Behaviors (Table 2-1) addresses the interaction characteristics of both the child augmentative technique user and the partner. These behaviors do not provide a theoretical framework for all augmented interactions, but pose a functional outline to consistently view the interaction behaviors of the child and the partner. This table includes some pertinent communication functions, mode selections, and discourse behaviors of both the child and the partner. Further, the outline of these behaviors reflects the bi-directional nature inherent in most communication interactions and emphasizes behaviors that seem to have substantial positive impact on successful augmented interactions.

ORGANIZATION OF THE PRIORITY COMMUNICATION BEHAVIORS

The PACT Priority Communication Behaviors are organized in terms of priority child communication behaviors and priority partner communication behaviors. We have attempted to identify priority communication interaction behaviors that hold potential for facilitating conversational exchange but are reported to occur infrequently in many augmented conversations. The child and partner are both given attention in order to reflect the highly interactive and bi-directional process that usually accompanies a communication interaction. Kraat (1985) points out that interactions involve not only an exchange of words but an exchange of nonverbal signals. Indeed, one partner's style of communicating influences the other's participation in a conversation. Studies of interactions involving augmented speakers have repeatedly noted that success is dependent not only on how efficiently and effectively the augmentative technique user can formulate a message but on how well the partner can accurately and appropriately interpret and expand on that message (Beukelman and Yorkston 1980; Kraat 1985).

Although studies and clinical observations report general trends in child and partner interaction behaviors, wide variations exist across children and partners (Kraat 1985). Individuals with severe expressive communication disorders have varied use of residual speech, available gestures, and facial expression, as well as varied abilities in cognitive, linguistic, and academic areas. All of these factors affect the ability of the child to successfully carry out a communicative exchange. On the other hand, partners will have varying abilities to successfully use strategies that facilitate communication with the children. In other words, the communicative competence of both the child and the partner interact dramatically in an augmented communication exchange.

Function, Mode, and Discourse Behaviors

The Priority Communication Behaviors of both the child and the partner are divided into the following three relevant areas of augmented conversational interaction: functions, mode, and discourse. These areas are typically used to observe the augmented interaction (Lossing 1981; Blackstone and Cassett-James 1982; Culp 1982; Harris 1982; Light, Collier, and Parnes 1985a, 1985b, 1985c) and are those in which the augmented population has consistently differed from normal speakers (Kraat 1985; Light, Collier, and Parnes 1985a; 1985b; 1985c). In addition, Kraat (1985) and Mathy-Laikko and Yoder (1986) have noted that the partner's behavior, as well as the context of the interaction, affect the function, mode, and discourse characteristics observed.

Functions are important because they represent the range of communicative acts or intents that are possible in human interaction. Modes represent major channels of communication including natural speech, gestures, and facial expressions as well as a specific augmentative technique. Both the child's

TABLE 2-1
Priority Communication Behaviors

Priority Child Behaviors	Priority Partner Behaviors
Functions	***Functions***
Socializes	Varies communication functions
Answers yes/no questions	
Answers other questions	
Offers information	
Requests assistance, object, or action	
Requests information	
Expresses feelings and attitudes	
Teases and/or pretends	
Other pertinent functions	
Mode	***Mode***
Establishes effective mode selection	Models use of augmentative communication technique(s)
Discourse	***Discourse***
Responds to partner's communication	Positions self appropriately
Secures partner's attention	Provides pause time
Establishes topic	Modifies questions
Sustains topic	Reinforces child messages
Recognizes nonverbal feedback from partner about comprehension	Confirms child messages
Provides feedback to partner	Elaborates child messages
Repairs communication breakdown	

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ability to effectively incorporate all available modalities as well as the partner's ability to recognize and interpret them are important to the success of augmented interactions. Finally, discourse, or the flow of connected utterances between speakers, provides a mechanism for evaluating how the child and partner recognize and act upon their respective roles in a conversational interaction.

Although the Priority Communication Behaviors have been separated into three relevant areas, there is a strong relationship among many function, mode, and discourse behaviors. For example, a child's discourse behavior such as "Responds to partner's communication" will clearly be associated with the child's function behaviors of "Answers yes/no questions" or "Answers other questions." The relationship among function, mode, and discourse behaviors is also bi-directional. The partner's discourse skill of "Modifies questions" certainly affects the variety of functions the child may attempt in a given interaction. Finally, although the Priority Communication Behaviors may serve as a general framework regarding augmentated interactions, the clinician must also attend to other function, mode, and discourse behaviors that may be relevant for a particular dyad.

DEFINITION AND RATIONALE FOR SELECTION OF PACT PRIORITY COMMUNICATION BEHAVIORS

The following paragraphs provide a definition and rationale for selection of each of the Priority Communication Behaviors. Examples for each behavior are provided in the Interaction Profile, Chapter 3. Function and discourse behaviors are generally listed hierarchically to indicate potential prerequisite skills and to provide a framework for building skills.

Functions

Communicative function refers to the particular use or intent of an utterance within a given interaction/context. Since the early work of Austin (1962) and Searle (1969), many taxonomies of various communicative intents have been developed for coding conversational interactions between normal speakers (Dore 1975; Halliday 1975; Prutting and Kirchner 1983). Clinical and formal direct observations of augmented interactions have led to the development of taxonomies specifically designed for augmentative communication (Harris 1978; Calculator and Dolloghan 1982; Culp 1982; Bolton and Dashiell 1984; Marriner, Yorkston, and Farrier 1984; Light, Collier, and Parnes 1985b). Because the studies using these various coding schemes are different, not only in the particular functions accounted for but in terms of context, subject characteristics, aid characteristics, and partner characteristics, it is difficult to make generalizations about the findings (Kraat 1985). However, one of the most consistent general trends is that the range of functions in augmentative technique user and partner interactions may be very limited. In fact, research on augmented interactions suggests that augmentative technique user functions are often limited to answering yes/no questions and other closed-ended questions, while partner functions are dominated by asking those questions (Blackstone and Cassett-James 1982; Culp 1982; Harris 1982; Kraat 1985; Light, Collier, and Parnes 1985b). What results is a series of question/answer routines, with the partner asking questions and the augmentative technique user responding.

Parental reports suggest that the range of communicative functions demonstrated by child augmentative technique users may also be limited in natural contexts. Culp et al. (1986) surveyed parents of 24 child augmentative technique users regarding the children's ability (using any modality) to express five basic communicative functions (making requests, giving information, asking questions, expressing feelings, and joking/teasing) in daily living. The mean number of these child functions reported by the parents was 3.79, suggesting that the children as a group had not mastered spontaneous use of even the most basic functions.

There are many reasons why the range of functions may be limited in augmented interactions, including vocabulary constraints of a particular technique, user characteristics (including physical, cognitive, linguistic, gestural, or paralinguistic variables), partner characteristics (familiarity with augmentative technique, ability to correctly interpret telegraphic or gestural communication), or the interrelationship of all of these characteristics (Kraat 1985). However, reduced range of functions has been reported in numerous augmented dyads regardless of the technique(s) used, the context observed, or the partner involved (primary caregiver, teacher, clinician) (Harris 1978; Blackstone and Cassett-James 1982; Culp 1982; Kraat 1985; Light, Collier, and Parnes 1985b). Furthermore, preliminary research on the training of functions suggests that it may be necessary to train each function separately (Glennen and Calculator 1985).

Therefore, in identifying the PACT Priority Communication Behaviors, the child functions that appear to be basic in facilitating a back-and-forth communicative exchange are outlined. The specific child functions represent rather broad coding categories for the two reasons cited by Light, Collier, and

Parnes (1985b): (1) to ensure observer reliability and (2) to facilitate the recognition of the interrelationship of the functions, modes, and discourse behaviors within the interaction.

For the partner functions, the partner should use a variety of functions when interacting with the child and not just those functions that put the child in the role of the respondent. Suggestions for functions that may be encouraged are given in this book. It is assumed that the partner is a natural speaker and is thus competent in using various functions. There is no attempt to delineate the particular combination of functions that may or may not be the most facilitating for an individual dyad.

CHILD FUNCTION BEHAVIOR: SOCIALIZES
Definition: Child uses greetings, courtesies, and social comments.

Rationale for Selection: Although such utterances as "Hi," "Bye," and "Thank you" are linguistically simple and among the early developing language milestones (Hedrick, Prather, and Tobin 1975), this function is often absent in the interactions of augmentative communication users and their partners (Culp 1982; Light, Collier, and Parnes 1985b). Kraat (1985) notes that such utterances often do much more than transfer meaning from speaker to listener. They take on social intents and may serve as catalysts for the speaker to become acquainted with or recognized by someone else (Kraat 1985). Therefore, effective use of social utterances has important communicative and interpersonal values for the child.

CHILD FUNCTION BEHAVIOR:
ANSWERS YES/NO QUESTIONS
Definition: The child produces a *yes/no* response to questions requiring an affirmative or negative response.

Rationale for Selection: Interactions between augmentative technique users and their partners often include a high percentage of questions and answers. The speaking partner typically asks numerous *yes/no* questions (Blackstone and Cassett-James 1982; Culp 1982; Harris 1982) with the augmented participant serving as respondent rather than co-initiator (Colquhoun 1982; Culp 1982; Harris 1982; Light, Collier, and Parnes 1985b). Thus, when partner *yes/no* questions and child *yes/no* answers are the dominant communicative functions in an interaction, the partner maintains conversational control. Such unilateral control is not desirable or facilitating. However, answering *yes/no* questions is included in the Priority Communication Behaviors because the child does need to have this behavior available for quick exchanges, clarifications, and confirmations.

CHILD FUNCTION BEHAVIOR:
ANSWERS OTHER QUESTIONS
Definition: The child produces responses to questions that cannot be answered by *yes* or *no*.

Rationale for Selection: Along with a profusion of *yes/no* questions, augmented interactions are often dominated by closed-ended WH-questions (*who, what, when, where, why*) (Culp 1982; Harris 1982; Calculator and Luchko 1983), meaning that another predominant child function is answering these other questions (Culp 1982; Harris 1982; Light, Collier, and Parnes 1985b). Again, the child is placed in a respondent role rather than that of co-initiator. Certainly the types of questions a child is able to answer depend on a variety of factors, including cognitive and linguistic abilities, vocabulary constraints of the augmentative technique(s) (Yoder and Kraat 1983), modes available (Wexler et al. 1983), partner involved (Beukelman and Yorkston 1980; Colquhoun 1982), and the demands of the particular context (Harris 1982; Light, Collier, and Parnes 1985b). This function is included in the Priority Communication Behaviors for two reasons. First, as in natural speaking interactions, answering other questions can be a productive function in augmented interactions when used proportionately to other functions. Second, establishing this function in the child frequently serves as a stepping-stone for establishing other functions, such as offering or requesting information.

CHILD FUNCTION BEHAVIOR:
OFFERS INFORMATION
Definition: The child provides information that is not solicited by a question or a prompt.

Rationale for Selection: As would be expected from the reported dominance of child question-answering functions, studies of child-partner interactions frequently note limited child attempts to offer unsolicited information (Blackstone and Cassett-James 1982; Culp 1982; Harris 1982; Light, Collier, and Parnes 1985b). This function is a Priority Communication Behavior because, whether it is incorporated to establish or embellish a topic, it is critical to the child's creative expression and conversational control. Furthermore, the child's ability to creatively contribute information is crucial to developing a role as an interesting communication partner and to broadening opportunities for interaction.

CHILD FUNCTION BEHAVIOR:
REQUESTS ASSISTANCE, OBJECT, OR ACTION
Definition: The child indicates a desire for help, a thing, or an activity.

Rationale for Selection: In spite of the fact that children who are physically handicapped are often

physically dependent on primary caretakers for most of their wants and needs, studies have shown that they infrequently request assistance, objects, or actions (Calculator and Dollaghan 1982; Culp 1982; Light, Collier, and Parnes 1985b). If requests for assistance or actions are made, they are often not accomplished using augmentation (Blackstone and Cassett-James 1984; Light, Collier, and Parnes 1985b) but with some other modality that may or may not include an idiosyncratic signal to a familiar partner. However, as Harris (1982) observed, a faster, more familiar modality can be ambiguous and inefficient, even to a primary caretaker and certainly to an unfamiliar partner. In their 1985 study, Glennen and Calculator found that after training, two nonspeaking physically disabled children were able to increase requests for objects using their communication boards. The children generalized this skill outside the training session and across listeners.

Physically handicapped children frequently have all their physical needs (such as toileting, dressing, feeding) anticipated and cared for by the primary caretaker. Therefore, skills for initiating simple requests may be limited from early childhood. Developing communicative skill with this function may be the child's only means of having more environmental control and making more independent choices.

CHILD FUNCTION BEHAVIOR:
REQUESTS INFORMATION
Definition: The child indicates a desire for knowledge of partner.

Rationale for Selection: Within augmented interactions, asking questions or requesting information are functions more often performed by the partner—sometimes to the exclusion of a variety of other functions (Harris 1982; Yoder and Kraat 1983; Kraat 1985). Previously cited studies of child augmentative technique user and partner interactions note few instances of the child requesting information. In the Culp et al. study (1986), only 11 out of 24 parent informants were able to give one example of their child asking a question in the natural environment.

We selected requesting information as a Priority Communication Behavior for three reasons. First, it is generally accepted in the fields of cognitive and language development that a child's requests for information play a dramatic role in normal learning.

We are all familiar with the toddler's "Why?" behavior and the preschooler's classic information requests such as "Where do babies come from?" or "Is Santa real?" Second, our psychology staff suggests that ability to request information during appropriate development and experiential periods affects children's understanding of and confidence in their environment. Children's developmental understanding of the environment may influence their social and emotional development. Finally, pragmatically, requesting information facilitates one's ability to maintain conversational exchange.

CHILD FUNCTION BEHAVIOR:
EXPRESSES FEELINGS AND ATTITUDES
Definition: The child indicates her or his emotions, physical states, and beliefs.

Rationale for Selection: This function is one that has been notably absent in the communication performance of the child (Culp 1982; Culp et al. 1986; Light, Collier, and Parnes 1985b). It is included in the Priority Communication Behaviors because it involves a psychological dimension of communication—that is, the reflection of personality (Kraat 1985). Certainly, various modalities (facial expression, gestures, vocalizations, speech, communication board) can be used to express feelings and attitudes, but children's abilities to let their feelings and attitudes be known help provide insight into their personalities and help them identify with particular individuals or groups (Kraat 1985). The ability to reliably express feelings and attitudes may have a positive impact on a child's mental health, an aspect that cannot be underestimated.

CHILD FUNCTION BEHAVIOR:
TEASES AND/OR PRETENDS
Definition: The child makes jokes, plays imaginary roles, or communicates about imaginary friends or places.

Rationale for Selection: Studies of child and partner interactions have generally not considered teasing and pretending. Of 24 parents surveyed by Culp et al. (1986), 10 were able to cite one example of their child teasing or joking. These reports suggest that, at least among that group of children, this function was not widely used. This function is a Priority Communication Behavior because it is such a natural and positive form of communication in children. Teasing and pretending are important functions because they afford the child a chance to reflect personality and to participate as a social being rather than just as a respondent or initiator of information (Kraat 1985). In addition, it is well documented in research on play behavior that pretending facilitates many aspects of a child's development (Musselwhite 1986).

CHILD FUNCTION BEHAVIOR:
OTHER PERTINENT FUNCTIONS
Although the functions outlined above are those judged most pertinent in the communicative interactions of augmentative technique users, certainly there are other functions that do occur and that may have substantial impact on any given

interaction. Examples of other functions include confirmations or denials, elicited imitations, conversational fillers or self-talk (Light, Collier, and Parnes 1985b); instructions or commands (Colquhoun 1982); and linguistic play (Lossing 1981). Other functions may be important during assessment and intervention with a particular dyad.

PARTNER FUNCTION BEHAVIOR:
VARIES FUNCTION

Definition: The partner uses communication for a variety of purposes, including socializing, offering information, expressing feelings or attitudes, and teasing or pretending.

Rationale for Selection: Again, research suggests that partners often use a large number of *yes/no* questions and closed-ended WH-questions (Culp 1982; Harris 1982; Light, Collier, and Parnes 1985b). This atypical pattern has been observed in teacher/user, primary-caretaker/user, and unfamiliar-partner/user dyads and across communication aids and contexts (Kraat 1985). This behavior is included to encourage the partner to vary functions—not to eliminate questions entirely, but to intersperse other pertinent functions which may facilitate a variety of functions from the child. Varying functions also allows the partner to share new and interesting ideas and perhaps find augmented conversation more rewarding.

Mode

A natural speaker's normal communication system is multi-modal in nature. Natural speech may be subtly altered through facial expression, intonation, and gestures. Or, delivery of a formal speech can be enhanced or reinforced with written handouts and overhead projections. An augmentative technique user's communication system may be multi-modal as well, although some systems are sharply reduced due to a user's physical limitations, such as dysarthric speech, or due to interference by such things as extraneous physical movements. Thus, in any given interaction, the user must choose which modes to use relative to the situation and the partner. For example, many children with severe expressive communication disorders use idiosyncratic means of communicating with primary caretakers (looking up for *yes* and looking down for *no*). They attempt to use these signals with unfamiliar partners rather than use augmentative techniques or more traditional signals such as head movements for *yes* and *no* (Kraat 1985). A child needs to know which modes are most effective for a particular situation or partner. It is equally clear that the primary partner(s) must be knowledgeable about, respond to, and demonstrate all of the child's modes.

CHILD MODE BEHAVIOR:
ESTABLISHES EFFECTIVE
MODE SELECTION

Definition: The child chooses an effective mode of communication (eye gaze versus speech versus communication board) relative to the partner and situation.

Rationale for Selection: A major finding in research is that both child and adult augmented users rely on unaided modes (usually gesture or vocalization) more often than on their communication aids (Calculator and Dollaghan 1982; Culp 1982; Harris 1982; Light, Collier, and Parnes 1985c; Culp et al. 1986). A child's choice of modes varies according to the demands of the activity or task (Blackstone and Cassett-James 1984), or according to the function or intent of a message (Harris 1982). However, Harris (1982) and Kraat (1979) also report that many communication attempts are unsuccessful because of poor choice of mode. In clinical practice, it has been noted that many children are unable to identify their available modes or different ways to tell people things.

Since availability of modes varies dramatically among children, the presence or absence of specific modes is not addressed by the Priority Communication Behaviors. The important point is whether children can identify their available modes and then use them effectively and efficiently in interactions with various partners in a variety of contexts. For example, can the child recognize that her dysarthric speech, though intelligible to her parents, is not the most effective mode for conversing with an unfamiliar partner? Clinicians observing the use of modes should be cautioned that using an augmentative technique as opposed to a gesture or vocalization is not necessarily the best choice in every situation (Kraat 1985). If a gesture toward a desired object is the quickest, most reliable means of communicating a request, then this gesture should not be discarded in favor of an augmented modality. On the other hand, if a parent can recognize an eye-gaze signal but an unfamiliar partner cannot, the child must know how to switch modalities. Intelligibility must be used as the guide.

PARTNER MODE BEHAVIOR:
MODEL'S USE OF AUGMENTATIVE-
COMMUNICATION TECHNIQUE(S)

Definition: The partner uses the child's specialized approach(es) to demonstrate how the child could say something, to expand upon what the child has said, or to communicate the partner's own message.

Rationale for Selection: The Priority Communication Behaviors recognize that normal partners have numerous communication modes available, although certainly some partners are more adept at

using facial expression, gestures, or even speech than others. In an augmented interaction, there is one modality that the natural speaker does not typically use, and that is the augmentative technique itself (Culp 1982; Light, Collier, and Parnes 1985b, Culp et al. 1986).

In selecting Priority Communication Behaviors, Bruno's work on modeling (1986) was most persuasive regarding the importance of the partner's modeling. She points out several reasons why modeling or demonstrating the augmentative technique can be facilitating. She posits that modeling

1. Increases the nonspeaking child's understanding and use of various communicative functions (Bottorf and DePape 1982; Musselwhite and St. Louis 1982)
2. Facilitates development of syntactic structures, semantic associations, and phonetic cuing
3. Sensitizes the partner to the communicative constraints of the child's technique
4. Increases the partner's awareness of the content in or on an aid.

Furthermore, in a study on the effects of modeling augmentative techniques, Bruno and Bryen (1985) have shown such modeling to have a positive impact on the communication of the child.

Discourse

Discourse refers to the flow of connected utterances between speakers. Normal discourse implies a back-and-forth exchange of information with participants sharing the responsibility for carrying on the conversation. In augmented discourse, natural-speaking partners often dominate and control the conversation, while the augmentative technique user fills primarily a respondent role (Calculator and Dollaghan 1982; Culp 1982; Harris 1982; Light, Collier, and Parnes 1985a). In identifying Priority Communication Behaviors in the area of discourse, there has been an attempt to incorporate behaviors that best facilitate not only successful communication but also the child's role of co-initiator.

CHILD DISCOURSE BEHAVIOR: RESPONDS TO PARTNER'S COMMUNICATION
Definition: The child in some way acknowledges the partner's communication.

Rationale for Selection: Again, even though the literature has shown that the augmentative-technique user's primary role tends to be too respondent, certainly the ability to attend to and in some way acknowledge questions and initiations of a communicative partner is a prerequisite skill to interaction. Kraat (1985) notes that even the attentive child may fail to respond to a partner's communication for the following reasons: (1) the answer requires too much physical effort; (2) the answer or response is not available on the aid; (3) the child does not know how to respond but lacks facility on the aid to indicate "I don't know," and (4) the partner already knows the answer and is asking the question rhetorically. This behavior was selected because regular response to the partner is critical to the flow of conversation and reinforces the partner's desire to continue.

CHILD DISCOURSE BEHAVIOR: SECURES PARTNER'S ATTENTION
Definition: The child demonstrates a behavior, which is judged by the observer to be intentional, that gains the partner's attention.

Rationale for Selection: One reason augmentative technique users are unsuccessful initiators is that they have difficulty in securing the partner's attention to seize a turn (Calculator and Dollaghan 1982; Light, Collier, and Parnes 1985a). Kraat and Miller (1984) noted that attention-getting signals are often weak and therefore missed by the partner. For instance, an unfamiliar partner may not be able to distinguish a particular vocalization as an attention-getting device or recognize an eye gaze to the aid as a means of gaining attention and signaling intent to produce a message. Light, Collier, and Parnes (1985a) note that it is essential that augmentative-technique users issue clear, recognizable signals at the onset of a turn. Thus, securing the partner's attention as a prerequisite to gaining entry into a conversation appears to be an appropriate Priority Communication Behavior.

CHILD DISCOURSE BEHAVIOR: ESTABLISHES TOPIC
Definition: The child introduces a new idea or content area into the conversation.

Rationale for Selection: Research on augmented interactions suggests that partners tend to initiate most of the topics (Culp 1982; Light, Collier, and Parnes 1985a) and to monopolize the conversational floor. Light, Collier, and Parnes (1985a) observed that augmentative technique users often have difficulty suggesting new topics even when opportunities exist. Calculator and Dollaghan (1982) noted that topics in contexts unknown to the speaking partner are rarely initiated. Many factors, such as vocabulary constraints, length of time, or effort required to complete a message, limited environmental experiences, and partner behaviors may contribute. However, the need for facilitation of this discourse behavior has been widely recognized in the literature (Bolton and Dashiell 1984; Kraat 1985; Light and Collier 1986; Light, McNaughton, and Parnes 1986). It is apparent that to experience

the rewards of conversation, the child must contribute creative new ideas to on interaction. Furthermore, our psychology staff suggests that mastery of communicative behavior may be strongly related to the development of a child's social and emotional independence.

CHILD DISCOURSE BEHAVIOR:
SUSTAINS TOPIC

Definition: The child continues to embellish a conversational content area (self- or partner-established) for three or more consecutive child messages.

Rationale for Selection: While children may show ability to maintain the focus of a particular conversation (Light, Collier, and Parnes 1985a), they may rarely contribute verbally to the topic. Preliminary studies note infrequent topic embellishment by the child (Harris 1978; Calculator and Dollaghan 1982; Culp 1982). Again, numerous previously noted factors may contribute to this. Like establishing a topic, sustaining a topic appears to hold potential for the child to play a more active and proportionate role in conversational exchange.

CHILD DISCOURSE BEHAVIOR: RECOGNIZES NONVERBAL FEEDBACK FROM PARTNER

Definition: The child identifies nonverbal communication from the partner regarding the partner's understanding or lack of understanding of a message.

Rationale for Selection: Research suggests that the frequency of communication breakdowns appears to be excessively high in the interactions of augmented speakers (Kraat 1985). Many limitations may contribute to these breakdowns. Some limitations may be technical, including the child's limited proficiency in using an augmentative technique (for example, difficulty pointing reliably to or indicating a symbol) and a technique's physical restrictions (for example, unintelligible synthesized voice or restricted vocabulary). These types of limitations must be addressed through technical training and technological advancement. Other contributing limitations may relate to child/partner proficiency with interaction behaviors noted elsewhere in the Priority Communication Behaviors. For example, the child's inability to select an appropriate mode of communication or the partner's failure to confirm a child's message may contribute to breakdown. Addressing these types of interaction behaviors in intervention should not only facilitate more functional conversation but also minimize communication breakdowns. However, the Priority Communication Behaviors should also include some discourse behaviors specifically directed at the child's prevention of breakdown. The child's recognition of a partner's nonverbal feedback appears to be an appropriate behavior of this type.

The child's inability to recognize nonverbal feedback from a partner appears to be one factor which contributes to the frequency of communication breakdown. For example, augmentative technique users may fail to cue in to opportunities to take the floor when it is nonverbally released by the partner (Light, Collier, and Parnes 1985a). Such failure may be misinterpreted by the partner as nonresponsiveness or noncompliance and may disrupt communication. In addition, Calculator and Dollaghan (1982) and Jolie (1981) have noted that augmentative technique users fail to attend to nonverbal cues from their partners and miss feedback that indicates the partner's confusion about a message.

Thus, in addressing the frequency of communication breakdowns through the Priority Communication Behaviors, the child's recognition of the partner's nonverbal feedback is posited as the first of three critical behaviors.

CHILD DISCOURSE BEHAVIOR:
PROVIDES FEEDBACK TO PARTNER

Definition: The child demonstrates communication to the partner that indicates (1) the child's understanding or non-understanding of the partner's message; (2) accuracy or inaccuracy of the child's message; or (3) the partner's accuracy or inaccuracy in interpreting the child's message.

Rationale for Selection: A second discourse behavior that has been specifically discussed relative to the prevention of communication breakdown is the child's feedback to the partner. Blau (1983) and Kraat (1985) have noted that augmentative technique users often fail to alert their partners that a message has been misunderstood. Clinical observation has shown that augmentative technique users may infrequently confirm their understanding or non-understanding of a partner's message or their own accuracy or inaccuracy in producing a message. Whether reduced feedback is due to physical limitations (cannot quickly vocalize, gesture, or provide facial expression) or to limitations of a particular augmentative technique (no facility for indicating "I didn't understand" or "I couldn't hear what you said."), feedback is important in preventing communication breakdown and in maintaining connected discourse (Kraat 1985). In support of these observations, providing feedback to the partner has been included as a second Priority Communication Behavior directed specifically toward prevention of breakdown.

CHILD DISCOURSE BEHAVIOR:
REPAIRS COMMUNICATION BREAKDOWN

Definition: When a message produced by the child

or partner is not understood or is not accurate, the child salvages the interaction by repeating a message, revising a message, asking a question, giving a hint, etc.

Rationale for Selection: Because many augmentative technique users and their partners experience frequent episodes of communication breakdowns, it is crucial that they have managerial or repair strategies available. Research suggests that augmentative technique users often have difficulty repairing communication breakdown (Kraat 1985). Calculator and Delaney (1986) note that perhaps one reason why repairing breakdowns is difficult is that the users typically repeat the message rather than revise it. Yoder and Kraat (1983) propose that the difficulty may arise because it either takes too long to repair the breakdown or the user just does not know how (or have the means) to correct the breakdown, given the limitations of the augmentative technique or the demands of the context. A few authors have begun to address development of strategies for breakdown repair (Fishman, Timler, and Yoder 1985; Blau 1986). Based on available research and clinical experience, the child's repair strategies are included as the third Priority Communication Behavior directed toward management of communication breakdowns.

PARTNER DISCOURSE BEHAVIOR:
POSITIONS SELF APPROPRIATELY

Definition: The partner situates self in relation to the child to have adequate access to the child's communication technique(s).

Rationale for Selection: Often the attention-getting behaviors and communication modes available to a person with a severe expressive communication disorder place specific attending and positioning requirements on the partner (Calculator and Dollaghan 1982; Calculator and Luchko 1983). For example, use of sign language requires the partner's visual attention. However, assuming the partner has adequate vision, signed messages can be received across a crowded, noisy room. In contrast, use of a communication board requires visual attention in close proximity to the child, and synthesized voice or dysarthric speech requires the partner's auditory/visual attention in close proximity in a quiet environment. In many cases, appropriate position is a prerequisite to the partner's recognition of the child's attempts to secure attention and reception or for co-construction of the child's messages. Therefore, the partner's position is included as a Priority Communication Behavior.

PARTNER DISCOURSE BEHAVIOR:
PROVIDES PAUSE TIME

Definition: The partner will be silent for at least four seconds after producing an utterance.

Rationale for Selection: The partner's use of pause time has been identified in the literature as a critical issue. Light, Collier, and Parnes (1985a) note that there are rarely silences of more than one or two seconds in the augmented interactions of primary caregiver and child dyads. Others have observed that partners tend to fill silent periods with extraneous talk (Blau 1983), repetition or rephrasing of a previous message (Light, Collier, and Parnes 1985a), or new topics (Kraat 1985). However, Light, Collier, and Parnes (1985a) observed that when primary caregivers offered pauses of two or more seconds, the children were more likely to produce messages. These types of observations have led to preliminary research on the conversational impact of training partners to pause. Such research suggests that increasing partner pause time is associated with increased child initiation (Glennen and Calculator 1985; Light, Rothschild, and Parnes 1985). Thus, based on available research, as well as on clinical observations regarding the time that many children need to linguistically formulate and physically generate a message, partner pause time is included as a Priority Communication Behavior. Based on clinical experiences, a four-second pause is specified in the definition of this behavior. However, clinicians should carefully observe the length of time needed for a child to produce a message and adjust the targeted length of partner pause time accordingly.

PARTNER DISCOURSE BEHAVIOR:
MODIFIES QUESTIONS

Definition: The partner revises *yes/no* and short-answer questions to statements, comments, or open-ended questions that pose the opportunity for more complex child messages. The allowable exceptions are questions that are necessary to confirm or clarify the child's topic.

Rationale for Selection: The partner's overuse of *yes/no* and WH-questions is repeatedly mentioned regarding a typical augmentative interaction, whether it involves teachers (Calculator and Dollaghan 1982; Harris 1982) or primary caregivers (Blackstone and Cassett-James 1984; Culp 1982; Light, Collier, and Parnes 1985a). This excessive question-asking behavior may have such a dramatic impact on discourse that the partner maintains conversational control. Blackstone and Cassett-James (1984) and Light, Collier, and Parnes (1985a) noted two mothers who never provided an opportunity for their children to participate, even on a nonverbal basis. Culp (1982) notes that mothers frequently ask a child a series of questions without waiting for, expecting, or attending to responses. Partners may also ask questions when they already know the answers (Light, Collier, and Parnes 1985a). Harris (1978) observed teachers who interrupted

Discourse	
Reinforces child messages	The partner will respond to or acknowledge the child's attempts to communicate. *Examples:* A. The child vocalizes to the partner from across the room. The partner is busy, but acknowledges the child's attempt to communicate, "I hear you, but I have to finish writing this down. I'll be there in a minute." B. The child points on the communication board to "I eat pizza." The partner responds, "Lucky you. I had tuna salad for lunch." C. The child angrily vocalizes, "I don't want to" regarding completing a school assignment. The partner says, "I know you don't want to and I know you're mad, but we have to keep up with your schoolwork."
Confirms child messages	The partner verbally clarifies the messages established by the child before continuing the conversation. *Examples:* A. The child points to a symbol on the communication board. The partner says, "Bobby." The child continues to the next symbol. The partner says, "is." The child points to another symbol and looks up to indicate that the message is completed. The partner says, "sick . . . Bobby is sick." The child nods, "Yes." B. The child points on the communication board to "Red car, no hat." The partner clarifies, "Are you talking about your teacher's red convertible?" The child indicates, "Yes." C. The child produces a message on the voice synthesizer. The partner did not understand and says, "I couldn't tell if that was *tea* or *key*." The child spells "T-E-A."
Elaborates child messages	The partner follows the child's lead in choosing ideas or content areas for conversation by offering further information or related events, expressing feelings or attitudes, etc., regarding the child's selected topic. *Examples:* A. The child indicates, "We saw a movie at school." The partner says, "That sounds like fun." The child indicates, "Yeah. It was Pinocchio." The partner says, "There are some good parts in that one." The child indicates, "Boy's nose gets big, big, big." B. The child indicates, "I saw a monster." The partner says, "I bet it was big." The child indicates, "It was big and blue." The partner says, "Sounds scary to me." The child indicates, "No, it was Cookie Monster."

PERFORMANCE CODES

A Demonstrates the behavior with general accuracy and frequency, taking advantage of the greatest number of opportunities for producing the behavior.

B Demonstrates more than two accurate productions of behavior, but unsuccessful productions or missed opportunities for production are frequent.

C Demonstrates one or two accurate productions of behavior, but unsuccessful productions or missed opportunities for production are frequent.

D Demonstrates behavior, but production is consistently unsuccessful or fails to demonstrate behavior when opportunity is present.

NO No Opportunity. Does not demonstrate behavior, but opportunity was absent.

USING THE PROFILE—STEP BY STEP

When familiar with the necessary definitions, the clinician is ready to begin the following procedure: Refer to the Sample Interaction Profile on the following pages. A blank copy of the profile begins on page 61.

after one word or who asked a series of questions but expected an answer to only one. Kraat (1985) posits that strangers resort to asking the child simple questions but do not really expect a response. Kraat (1985) also says that partners may ask numerous questions in an effort to get a response and to keep the flow of discourse going.

There are times when question-asking may be the most effective and efficient strategy for obtaining information from the child, especially if the child's augmentative technique has an extremely limited vocabulary. For instance, requesting clarification or confirmation of the child's message may be accomplished efficiently with questions. However, to achieve rewarding conversation that is mutually enhanced and controlled by the child and the partner, it is important to strive for an appropriate balance between partner questions and other partner communication functions. Modification of questions as a partner Priority Communication Behavior is included in conjunction with the Partner Varies Functions behavior, because we have been impressed by the impact of question modifications on discourse and by partners' specific difficulties in revising their use of questions.

PARTNER DISCOURSE BEHAVIOR:
REINFORCES CHILD MESSAGES
Definition: The partner will respond to or acknowledge the child's attempts to communicate.

Rationale for Selection: Since augmentative technique users have frequently been noted to be passive participants in communicative interactions (Kraat 1985), any and all attempts they make to communicate should be accepted and reinforced. Light, Rothchild, and Parnes (1985) describe a case study in which increased parent reinforcement of child messages, in conjunction with child communication training, seemed to be related to increased child initiations. Clinically, it has been noted that partners often do not acknowledge child messages that are not readily intelligible. Frequently, familiar partners indicate they do this to protect themselves and the child from yet another unsuccessful and frustrating interaction. Other partners may acknowledge child messages selectively according to mode. Selective acknowledgement may be related to lack of familiarity with the child's various modes or to attempts to encourage one particular mode such as speech or sign language. Reinforcement of child messages has been selected as a Priority Communication Behavior to encourage the child's role as co-initiator of communication.

PARTNER DISCOURSE BEHAVIOR:
CONFIRMS CHILD MESSAGES
Definition: The partner verbally clarifies messages established by the child before continuing conversation.

Rationale for Selection: If the child is a nonspeller and has to formulate a message with a limited set of picture symbols, for instance, then the partner often becomes a negotiator of meaning (Kraat 1985). In fact, messages from augmentative technique users have frequently been reported to be fragmented. However, Culp (1982) and Light, Collier, and Parnes (1985a) both noted that a partner often misinterprets and interrupts before the user's message is complete. This may be due to the slowness in forming the message. However, failure to clarify the child's message can result in frequent breakdowns. If the context is unknown, the task becomes more difficult. If the child is expected to be an equal partner in an interaction—that is, to be both an initiator and a responder—then the partner must make every effort to confirm initiations and responses to help co-construct the child's message.

PARTNER DISCOURSE BEHAVIOR:
ELABORATES CHILD MESSAGES
Definition: The partner follows the child's lead in choosing ideas or content areas for conversation by offering further information or related events, expressing feelings or attitudes, etc., regarding the child's selected topic.

Rationale for Selection: Augmentative technique users often provide messages in a telegraphic form partly due to mode limitations and also to help speed up the rate of communication (Kraat 1985). In conjunction with confirming a message, it is often the partner's role to elaborate or expand the message. This behavior is included because partner elaboration frequently encourages the child to vary functions and to sustain topics. Partner elaboration may also contribute toward maintaining a rewarding conversational flow for both participants.

CONCLUSION

In this chapter, child and partner function, mode, and discourse behaviors have been identified, defined, and selected for Priority Communication Behaviors. The next task is to develop them into a clinical framework for describing corresponding assessment measures and intervention guidelines. Chapter 3 describes the PACT Communication

Assessment Guidelines and introduces the procedures for observing the communication attitudes and interaction skills of an augmentative technique user and partner. The Interaction Profile assesses interaction behaviors identified and defined in the Priority Communication Behaviors. These same behaviors are then addressed in the Communication Intervention Guidelines described in Chapter 4.

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TABLE 3-2
PACT Interaction Profile

Transcription Sheet—Child Messages

(Page 2 of 4)

STEP 4

Context 1

Transcription of Child Messages	Mode*	Function**	Effect***
1. Ambiguous vocalization	V	O	O
2. "Mom... hand."	S	RAOA	S
3. "Spoon"	S	RAOA	S
4. Nod "Yes"	G	AYN	S
5. "Yeah"	S	AYN	S
6. "Yeah"	S	AYN	S
7. Ambiguous vocalization	S	O	Ø
8. Ambiguous vocalization	S	O	Ø
9. "What doing in there?"	S	RI	S
10. "How?"	S	RI	S
11. Ambiguous vocalization	S	AOQ	O
12. "Home."	S	OI	S
13. "Me"	S	AOQ	S
14. "TV"	AT	AOQ	S
15. "Nod "Yeah"	G	AYN	S
16. "Yeah"	S	AYN	S
17. "Yeah"	S	AYN	S
18. Nod "Yeah"	G	AYN	S
19. "Wher?"	S	RI	S
20. "Home"	S	OI	S
21. "Me"	S	AOQ	S
22. Ambiguous vocalization	V	AOQ	O
23. "Yeah" (confirmation)	S	O	S
24. Ambiguous vocalization	V	AOQ	O
25. "Movie"	S	OI	S

Context 2

1. Ambiguous vocalization	S	AYN	O
2. Ambiguous vocalization	V	AOQ	Ø
3. "Yellow"	AT	AOQ	S
4. "Yeah" (nod)	G	AYN	S
5. "Why?"	S	RI	S
6. "He-man"	S	OI	S
7. "Yeah" (nod) (confirmation)	G	O	S
8. "No" (nod)	G	AYN	S
9. Ambiguous vocalization	V	AOQ	O
10. "Uh huh"	V	AYN	S
11. "Yeah" (nod)	G	AYN	S
12. "Yeah" (nod)	G	AYN	S
13. "Yeah" (nod)	G	AYN	S
14. Ambiguous vocalization	V	O	O
15. "Excuse me"	S	S	S
16. "Home"	S	RI	S
17. "You"	S	RAOA	S
18. "Yeah" (nod)	G	AYN	S
19. "He-man"	S	AOQ	S
20. Ambiguous vocalization	S	AOQ	O
21. "Orange"	S	AOQ	S
22. Ambiguous vocalization + puts felt on plate	V t G	AOQ	O
23. "No" (nod)	G	AYN	S
24. "Make mouth"	S	AOQ	S
25. "Yeah" (confirmation)	G	O	S

*Modes:
AT = Aug Tech
E = Eye Gaze
F = Facial Exp
G = Gest
V = Vocalize
S = Speech
Sg = Sign

**Functions:
S = Socializes
AYN = Answers Y/N Questions
AOQ = Answers Other Questions
OI = Offers Information
RAOA = Requests Assistance/Object/Action
RI = Requests Information
EFA = Expresses Feelings/Attitudes
TP = Teases/Pretends
O = Other

***Effect:
S = Successful
/ = Unsuccessful
0 = Ambiguous

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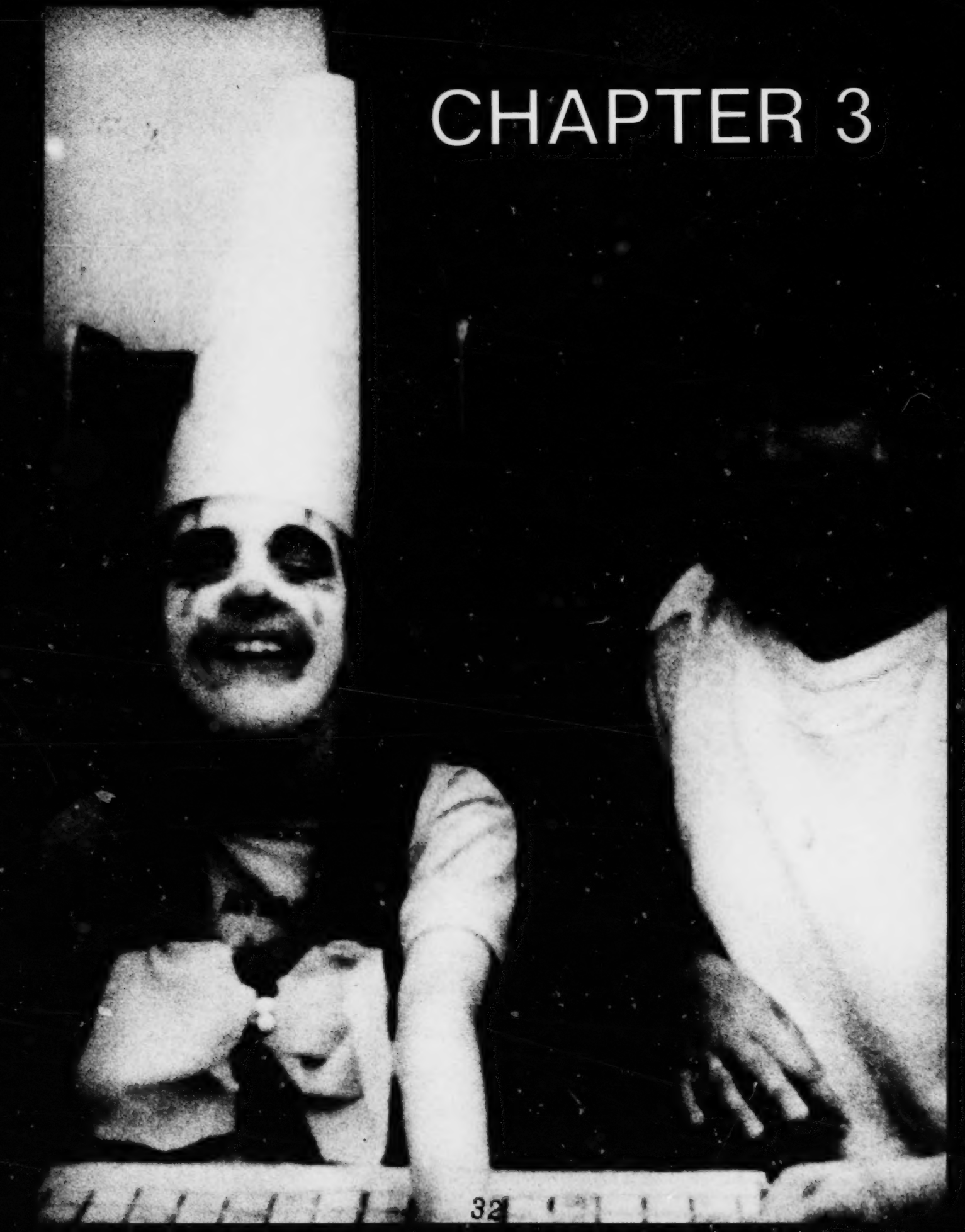
PART II:

Assessment and Intervention

CHAPTER 3



CHAPTER 3

Communication Assessment Guidelines

THE ROLE OF THE PACT ASSESSMENT GUIDELINES

The PACT Communication Assessment Guidelines make a vital contribution toward the PACT program goal of facilitating the conversational interaction of child augmentative technique users and their partners. The guidelines focus on describing the communication attitudes and conversational interactions of the child and a partner. Although the guidelines encourage clinicians to attend to dimensions of augmentative techniques that may pose barriers to attitudes, interaction, and effectiveness of the overall communication system, they do not directly address the issues of technique selection. It is assumed that a team evaluation of factors such as positioning, available movements, symbolization capabilities, physiological support for speech, hearing sensitivity, and cognitive status has been previously conducted. The Communication Assessment Guidelines provide clinicians with a manageable, systematic framework for collecting and analyzing data that assists in planning an individualized interaction facilitation program for a communication dyad and also for monitoring the impact of that program.

Contemporary authors in augmentative communication stress the importance of conscientious development of assessment procedures (Kraat 1985; Beukelman 1986; Mathy-Laikko and Yoder 1986; Culp 1987. Beukelman (1985) has particularly posed the need for documentation rather than subjective reporting. Such documentation is critical as we begin to develop and implement interaction facilitation programs (Kraat 1985). However, development of assessment procedures is complicated by the youth of the augmentative field, the heterogeneity of augmentative users, the variety of augmentative techniques, and the complexity of the conversational communication process (Culp 1987). Furthermore, because of the complexity involved, clinicians are challenged to develop assessment procedures that are manageable in the clinic setting yet adequate to describe communication performance.

In developing the PACT Assessment Guidelines, careful consideration has been given to potential behavior parameters, measurement procedures, and administration/scoring conditions (Culp 1987).

In addition, Beukelman (1986) recommends the following four aspects of change be addressed by any assessment procedures designed to evaluate the impact of augmentative intervention:

1. Is some change occurring?
2. Is the expected change occurring? For example, if an intervention program is to focus on increasing user initiations, are those behaviors increasing?
3. Is some change occurring at a level other than at the one anticipated? For example, if the focus of training is initiation, are there also changes in pointing ability or symbol recognition?
4. Is change occurring that will support future gains in other performance areas? For example, if improvements are noted in pointing ability, will those support development of typing skills, which may further support development in spelling and academics?

INTRODUCTION TO THE COMMUNICATION ASSESSMENT GUIDELINES

These Communication Assessment Guidelines include two basic procedures that assess communication attitudes and interaction behaviors. They are preliminary attempts to collect and consider communication data in a systematic and clinically manageable format. First, the Partner Rating Scale and Child Rating Scale, pages 47-59, systematically collect information regarding partner/child attitudes about child augmentative technique(s) and natural speech. Second, the PACT Interaction Profile, pages 61-64, assesses partner/child function, mode, and discourse behaviors as outlined in the Priority Communication Behaviors in Chapter 2.

These two procedures should be administered before planning a conversational interaction facilitation program for a particular dyad. However, such administration should *follow* technique assessment, technique selection, and basic technique-use training. In addition, before or in conjunction with the PACT assessment procedures, the clinician must obtain as much information as possible regarding the child's general abilities (motor, cognitive, social, and academic), daily activities, interactive skills, and communication

needs. This may be accomplished by informally observing the child in natural contexts, reviewing records, talking with significant others (teachers, therapists, peers, and family members), or interviewing the child and partner. Use of more formal procedures such as the Parent Questionnaire and Home and School Communication Needs (Bristow and Fristoe 1984) or the Augmentative Communication Intake Questionnaire (Goosens and Crain 1986) may be useful. Finally, the Communication Assessment Guidelines should be administered in conjunction with the psychological considerations described in Chapter 5.

More specifically, the Partner/Child Rating Scales were developed because the communication attitudes of partner and child may have a substantial effect on conversation. While others have noted the importance of communication attitudes in augmentation (Kraat 1985), little research has been conducted in this area. However, reports concerning user, layperson, and education/medical staff attitudes suggest that these attitudes may be disruptive to the communication process (Ewing 1975; Beukelman and Yorkston 1982; Mathy-Laikko and Coxson 1984). For example, in the Coxson and Mathy-Laikko study of layperson attitudes (1984), subjects indicated that they would probably not initiate communication with the augmentative technique users they had observed on videotape.

Our concern regarding communication attitudes stemmed from attitudes expressed by spouses and parents in the Culp et al. (1986) follow-up study of Callier Center's Augmentative Communication Team clients. In that study, numerous parents and spouses expressed general disappointment in augmentation, noting that the techniques were slow, unreliable, cumbersome, basic, and often socially unaccepted. Furthermore, these attitudes were associated with reported low percentages of augmentative aid use. Therefore, PACT addresses partner and user communication attitudes in assessment and, if indicated, in intervention. The rating-scale format taps child and partner attitudes as well as child perceptions of partner attitudes and partner perceptions of child attitudes. It can be administered quickly and easily to both the child and the partner.

The Interaction Profile provides a clinically manageable and repeatable framework for collecting and analyzing data regarding the conversational interaction characteristics of the child and partner in specific situations. It should be distinguished from research protocols that have been developed to study augmented interaction (Harris 1978; Colquhoun 1982; Culp 1982; Wexler et al. 1983; Blackstone and Cassett-James 1984; Dore, and Blau 1982; Light, Collier, and Parnes 1985a,b,c). Although research protocols have contributed substantially to our knowledge base, their analysis procedures may be too comprehensive and time-consuming for use in clinical practice. In developing the Interaction Profile an appropriate balance has been attempted between comprehensiveness and efficiency in order to posit a communicatively pertinent yet clinically manageable framework for observation and analysis. Accordingly, the behaviors identified in the Priority Communication Behaviors will be addressed. However, efforts have been made to attend to the contextual, reciprocal, and sequential aspects of conversational interaction. The Interaction Profile also provides interpretation suggestions for the potential adaptation and implementation of the Intervention Guidelines.

RATING SCALES

The Child Rating Scale and the Partner Rating Scale, pages 47-59, assess communication attitudes. Each rating scale includes administration instructions. Typically, the clinician reads items from the Child Rating Scale to the child and records responses; the partner completes the Partner Rating Scale independently. The scales were designed so that the same statements regarding child and partner attitudes could be presented to both members of the dyad. This design offers clinicians the opportunity to collect information on (1) reported child communication attitudes, (2) reported partner communication attitudes, (3) child perception of partner communication attitudes, and (4) partner perception of child communication attitudes. To maintain an appropriate language level for the children, basic vocabulary and sentence forms were incorporated and all items were stated positively. Consistent use of positive statements did not seem to substantially affect the respondents' answers due to the brevity of the scale. A five-point scale is used and supplementary labels and pictorial symbols are provided for the children.

Scoring and Interpretation

GENERAL OBSERVATIONS

Results from both rating scales are to be recorded on the Rating Scale Summary Sheet, page 60. By reviewing this summary sheet, reported child and partner attitudes can be identified and conflicting perceptions noted. Numerous attitude/perception patterns are possible. Children and their parents typically report positive attitudes and perceptions regarding talking. These reports may be consistent even when the child's oral communication is limited to vocalizing for securing someone's attention. Attitude/perception patterns *regarding augmentation* might include:

1. Both child and partner report positive attitudes, and perceptions are consistent with those reports.
2. The child reports negative attitudes, while the partner reports positive attitudes without perception of the child's negativity.
3. The child and the partner report positive attitudes, but the child perceives the partner to be negative.
4. Both the child and the partner report generally negative attitudes, and perceptions are consistent with those reports.
5. The child reports positive attitudes and the partner reports negative attitudes, but neither perceives the difference in attitude.

Patterns may be further complicated when more than one augmentative technique is addressed. For example, if a child uses a communication board and a high-technology system, child/partner attitudes regarding each technique may be similar or different.

Negative or inconsistent attitudes should be noted for further inquiry. Two dyads with patterns like number 2 demonstrate why inquiry is important. In private discussion with a clinician after completing the rating scale, Child 1 indicated that she did not like her voice synthesizer because she was "sad not to talk like her friends." Her mother was unaware of this sadness. In contrast, Child 2 expressed anger regarding mechanical difficulties with his electronic technique, and his mother unknowingly was further aggravating him by telling friends how much he "loved his computer."

TABLE 3-1
PACT Rating-Scale Summary Sheet

PACT
Rating Scale Summary Sheet

Child's Name: John Partner's Name: Mom
Date: 7/18/86

Code child/partner responses as follows:
1 = Very wrong/Strongly disagree
2 = A little wrong/Disagree
3 = Not right or wrong/Neutral
4 = A little right/Agree
5 = Exactly right/Strongly agree

No.	Topic	Child	Partner
	Like		
1	Child Talk	5	4
2	Partner Talk	5	5
3	Others Talk	5	5
4	Child A.T. (a)	1	4
	Child A.T. (b)		
5	Partner A.T. (a)	5	4
	Partner A.T. (b)		
6	Others A.T. (a)	1	4
	Others A.T. (b)		
	Feel Good		
7	Child Talk	5	4
8	Partner Talk	5	4
9	Child A.T. (a)	1	4
	Child A.T. (b)		
10	Partner A.T. (a)	5	4
	Partner A.T. (b)		
	Importance		
11	Child A.T. (a)	4	4
	Child A.T. (b)		
12	Partner A.T. (a)	5	5
	Partner A.T. (b)		

No.	Topic	Child	Partner
	Understand Use		
13	Child A.T. (a)	5	5
	Child A.T. (b)		
14	Partner A.T. (a)	5	5
	Partner A.T. (b)		
	School Performance		
15	Child A.T. (a)	1	3
	Child A.T. (b)		
16	Partner A.T. (a)	5	4
	Partner A.T. (b)		
	Expression		
17	Talk/Can Say	5	4
18	A.T./Can Say (a)	5	4
	A.T./Can Say (b)		
	People's Understanding		
19	Talk/Understand	1	2
20	A.C./Understand (a)	5	4
	A.C./Understand (b)		
21	Speech Improvement		3
22	Rewards/Efforts		4
23	Suitability of A.T.		5

Case Study

Table 3-1 is used to review and interpret the communication attitudes and perceptions of John and his mother. Several of John's responses regarding his augmentative technique (a Rebus symbol communication board aided by a headpointer) cause some concern. He strongly disagrees with the following statements: "I like to use my communication board" (item 4); "Other people like me to use my communication board" (item 6); "I feel good about the way I use my communication board" (item 9); "I think I need to use my communication board to do better in school" (item 15). Furthermore, based on John's mother's responses to corresponding questions regarding her perceptions of John's attitudes, she is unaware of John's negativity. Finally, John's mother's attitude about the communication board appears in corresponding items (5, 10, and 16) to be different from and more positive than John's.

In response to nonjudgmental questions about his responses to items 4, 9, and 15, John indicated that, although he recognized a need for augmentation, he did not want to use a communication board. He wanted to use a computer. Procedures for addressing these attitudes through intervention will be described in Chapter 4.

SUMMARY

Without routine use of attitude guidelines, issues like those noted above frequently remain unidentified and unaddressed. Omissions of this type may sabotage communication intervention. The Rating Scales can identify such issues and target them for discussion in intervention.

INTERACTION PROFILE

General Description

The Interaction Profile, pages 61-64, provides a clinically manageable framework for systematically observing and assessing the quantitative and qualitative conversational behaviors of the child and partner in two videotaped conversational situations. The profile focuses on the importance of child behavior, the communication system, and conversational contexts. In addition, the profile attends to the reciprocal and sequential aspects of conversational exchange. The specific function, mode, and discourse behaviors assessed are outlined in the Priority Communication Behaviors (Chapter 2, Table 2-1). Current literature and clinical experience suggest that these specific behaviors are among those most critical to the interactions of augmented children and their partners. The profile provides definitions and examples for each function, mode, and discourse behavior. The primary goal of the profile is to provide critical behavior information that will assist the clinician in adapting corresponding goals and activities from the Intervention Guidelines to facilitate the conversational interaction skills of a particular dyad.

Use of videotaped samples is optimal for reliable assessment. However, video equipment is not available in all clinical settings. In such settings, clinical observation of the Priority Communication Behaviors in child-partner interactions in the natural environment may be adequate for development of a PACT intervention plan.

Administration

Qualifications of the Examiner: The examiner should be a clinician, most typically a speech-language pathologist or special educator, with extensive knowledge of pragmatics, at least basic knowledge of augmentative communication, thorough knowledge of the six chapters of this book, and competence in videotaping procedures. Before using the profile, the clinician should practice the analysis procedure on a taped augmented interaction.

Preparation: Prior to administering the Interaction Profile, the clinician has become generally familiar with the child's abilities, daily activities, interactive skills, and communication needs. Based on information gleaned from this preparation, the clinician chooses an appropriate partner and two communication contexts for the assessment.

Partner: In choosing a partner, the clinician considers partner availability for assessment and subsequent intervention. Other factors for consideration include the child's motivation to interact with the partner, the partner's interest in the child's communication skills, frequency of opportunity for child-partner interaction in daily life, and potential longevity of the child-partner relationship. In the PACT Pilot Study, parents were selected as partners because the child-parent motivation to improve communication, the communication opportunity, and the relationship longevity are frequently good. Other possible partners include teachers, teacher aides, siblings, grandparents, peers, and baby-sitters.

Contexts: The Interaction Profile suggests videotaping two different contexts. The best contexts are those that can be repeated following an intervention. Ideally, videotaping is done surreptitiously in the natural environment. However, videotaping without the knowledge or consent of the child and partner poses logistical and ethical problems. Access to the natural environment is often difficult

and, even when feasible, may present technical problems. Therefore, conversational contexts for videotaping in the clinical setting should be carefully chosen and defined for the particular dyad. It may be helpful to choose a high-frequency, minimally complex interaction, such as making a snack or playing with toys, and a more difficult interaction, such as solving a problem or relating a remote event. Many times the child and partner can provide suggestions for communication contexts. If only one context is evaluated, the clinician must be sure that performance in that context represents the dyad's typical communication interactions.

Time: An estimated time for data collection and analysis with two contexts is three hours—one hour to videotape (two 20-minute contexts) and two hours for analysis. The time frame for analysis will vary somewhat depending on factors such as the child's message frequency, rate, and intelligibility.

Videotaping: Videotaping allows clinicians to observe the multiple characteristics and behaviors of an interaction on repeated viewings. In settings where video equipment is not available, the clinician may wonder about the potential of the Interaction Profile for on-line observation. The profile's potential for this type of observation has not been studied. However, it is suspected that reliable on-line coding of all function, mode, and discourse behaviors is not possible. Clinicians are urged to purchase high-grade videotape to provide a quality recording. Equipment with automatic focus, zoom lens, pause, slow motion, and time generator features is helpful. Before taping, the equipment should be tested. In some cases, especially if the child produces distorted or low-volume speech, it may be necessary to use a supplementary microphone rather than the boom microphone on the camera. Clinicians must also attend to taping the child, partner, and augmentative techniques simultaneously.

In recording the two conversational contexts, the equipment should be as unobtrusive as possible. The child and partner should be instructed to interact as normally as possible. The clinician should provide approximately three minutes of lead time before timing the interaction. If the two contexts are recorded continuously in the same physical setting, lead time is needed only at the beginning of the first context. Lead time allows the dyad to settle into the situation and to adjust to the equipment. After the lead time has expired, the clinician records for 20 minutes.

Videoanalysis/Scoring

Before reviewing and analyzing the videotape, the clinician must be thoroughly familiar with the definitions of Communication Modes, pages 33-34, Message Effects, pages 33-34; Child Behaviors, pages 34-36; Partner Behaviors, pages 36-37; Performance Codes, page 37.

Definitions

COMMUNICATION MODES (page 3 of the profile)
Eye Gaze—Use of visual focus or eye contact for communication interaction. (Examples: looks at sink to indicate desire for water; makes eye contact with partner to secure attention.)

Facial Expressions—Use of conventional or idiosyncratic facial movements. (Examples: smiling, pouting, raising eyebrows to question, closing eyes to indicate a desire to lie down.)

Gestures—Use of conventional or idiosyncratic movements of the head or extremities. (Examples: yes/no head nods, pointing, reaching out, waving, patting self on head to indicate grandfather who always wears a hat.)

Vocalization—Use of voice that is not intelligible to the listener and not consistent to a specific referent. (Examples: uses voice to indicate pleasure or uses voice to secure partner's attention.)

Speech—Use of natural speech (obvious words or word approximations) that has a consistent referent and is generally intelligible to the listener.

Augmentative Communication Technique(s)—Use of a specialized communication mode that should be described in terms of the following:

1. Symbol system (Examples: sign language, pictures, rebus symbols, alphabet, words)
2. Transmission technique (Examples: direct selection—hand pointing; scanning—eyebrow switch)
3. Output (Examples: short-term visual, voice synthesizer, printer, etc.)
4. Other: Use of a mode not previously defined should be carefully described.

MESSAGE EFFECTS (page 2 of the profile)
Successful Message—A message is successful when, having observed the sequence of the interaction, you judge that the partner understood the child's intended message.

Unsuccessful Message—A message is unsuccessful when, having observed the sequence of the interaction, you judge that the partner did not understand or acknowledge the child's intended message.

Ambiguous Message—A message is ambiguous when, having observed the sequence of the interaction, you judge that (a) the partner's response to the child's message fails to clearly indicate understanding or non-understanding of the child's apparent intent, or (b) the child's response to the partner's response to the child's message fails to indicate that the partner has or has not understood the message as intended.

Example:

Partner:	"So, what shall we do next?"
Child:	(Ambiguous vocalization plus ambiguous gesture to art supplies on the table.)
Partner:	"Okay. We'll just paint your face."
Child:	(Does not respond)

The child's message is ambiguous because the partner did not make it clear that she understood it. In addition, the child did not indicate that his message was understood or not understood.

CHILD BEHAVIORS (page 3 of the profile)

Functions	
Socializes	Child uses greetings, courtesies, and social comments. *Examples:* A. Child sees a friend and indicates, "Hi, how are you?" B. Child accidentally bumps someone and indicates, "I'm sorry." C. Child requests a drink using "Please" and indicates "Thank you" when receiving it.
Answers Yes/No Questions	Child produces a *Yes* or *No* response to questions requiring an affirmative or negative response. *Examples:* A. Partner asks, "Do you want a drink?" Child answers *yes* by nodding head, looking up, or saying "Yeah." B. Partner asks, "Is Bobby back from vacation?" Child answers *no* by shaking head or saying, "No."
Answers other questions	Child produces responses to questions that cannot be answered with *yes* or *no*. *Examples:* A. Partner asks, "What did you have for lunch today?" Child answers, "Pizza." B. Partner asks, "Where is your homework?" Child answers, "At home." C. Partner asks, "How did you do on your spelling test?" Child answers, "100."
Offers information	Child provides information that is not solicited by a question or a prompt. *Examples:* A. Child comes home from school and indicates spontaneously, "I finished reading my book." B. Partner says, "I went to McDonald's last night." Child indicates, "I had yucky meatloaf."
Requests assistance, an object, or an action	Child indicates a desire for help, a thing, or an activity. *Examples:* A. Child indicates, "I want to go to bathroom." B. Child indicates, "I need new crayons." C. Child indicates, "Push me."
Requests information	Child indicates a desire for knowledge of partner. *Examples:* A. Child indicates, "Where is Daddy?" B. Child indicates, "Is Bobby sick?" C. Child indicates, "Tell me about your trip."
Expresses feelings and attitudes	Child indicates own emotions, physical states, and beliefs. *Examples:* A. Child indicates, "I'm mad at Mommy." B. Child indicates, "I'm hungry." C. Child indicates, "I don't like tomatoes."
Teases and/or pretends	Child makes jokes, plays imaginary roles, or communicates about imaginary friends or places. *Examples:* A. Child teases partner indicating, "You're lazy." B. Child plays house and indicates in the role of the parent, "No, no. Now you have to sit in the corner." C. Child tells about an imaginary friend, "My friend Bacco has green hair."
Other pertinent functions	The list of functions is not all-inclusive. It represents the authors' biases regarding functions that most frequently contribute to the effectiveness of communication interactions involving augmentative techniques. However, for any particular dyad, other functions may be equally important to note. For example, when a child frequently labels objects, imitates partner utterances, or rejects partner utterances that could have a substantial impact on interaction, such functions should be noted and described.

Mode	
Demonstrates strategies for mode use according to partner/situation	The child chooses an effective mode of communication (eye gaze versus speech versus communication board) relative to partner and situation. *Examples:* A. The child uses speech to communicate with Mom because she will understand, but uses a communication board to communicate the same information to a stranger who might find the speech unintelligible. B. The child uses an augmentative technique to establish a topic that Mom might not be able to anticipate. Then, the child begins to use speech. C. The child uses speech or vocalization with gestures to communicate because the partner is too far away to see what the child is pointing to on the communication board.

Discourse	
Responds to partner's communication	The child in some way acknowledges the partner's communication. *Examples:* A. The partner comments on the weather. The child responds by looking up, smiling, nodding agreement or disagreement, shrugging shoulders, or commenting about the weather forecast, rather than not responding. B. The partner asks a question that the child does not comprehend. The child shrugs shoulders or indicates "I don't know" or "I don't understand" rather than not responding. C. The partner instructs the child to do something. The child performs the task or indicates "I can't" or "I don't want to" rather than not responding.
Secures partner's attention	The child exhibits a behavior, judged by the observer to be intentional, that gains the attention of the communication partner. *Examples:* A. The partner is reading near the child. The partner looks up and the child intentionally makes eye contact as if to say "Let's talk." B. The partner's back is turned to the child. The child bangs on tray, vocalizes, or calls partner's name. The partner turns to the child.

Discourse	
Establishes topic	The child introduces a new idea or content area into the conversation. *Examples:* A. The child gains a partner's attention and makes a comment or asks a question. B. Following a pause in an established conversation, the child tells about plans for the next day, or feelings about a friend. C. The partner talks about a picture of an elephant. The child begins to talk about a school field-trip to the zoo.
Sustains topic	The child continues to embellish a conversational content area (self- or partner-established) for three or more consecutive child messages. *Examples:* A. The partner comments on the sunny weather. The child indicates that the cool wind feels good. The partner agrees. The child indicates a desire for continued good weather for an evening picnic. The partner agrees. The child asks about the weather forecast. B. The child tells about getting in trouble at school. The partner expresses disapproval. The child indicates someone else was at fault. The partner asks about punishment. The child indicates going to the principal's office.
Recognizes nonverbal feedback from partner about comprehension	The child identifies nonverbal communication from partner regarding the partner's understanding or lack of understanding of a message. *Examples:* A. The child produces a message, recognizes the partner's nod of comprehension, and completes the message. B. The child produces a message and recognizes that the partner looks confused.
Provides feedback to partner	The child indicates (1) understanding or lack of understanding of partner's message, (2) accuracy or inaccuracy of the child's message, and (3) the partner's accuracy or inaccuracy in interpreting the message. *Examples:* A. The partner produces a message. The child nods head to indicate understanding or has a puzzled facial expression to indicate lack of understanding. B. The child produces a message then looks to the partner for response, if message is accurate, or says "Uh oh" at discovery that an incorrect symbol was indicated.

Discourse

C. The child points to symbols on the communication board to formulate a message. The partner says each word aloud as the child points. The child keeps going or nods as the partner says the correct word, but stops and says "Uh uh" if the word is wrong.

Repairs communication breakdown

When a message produced by the child or the partner is not understood or is not accurate, the child salvages the interaction by repeating it, revising it, asking a question about it, giving a hint, etc.

Examples:

A. The partner asks the child to find the *wrench*. The child doesn't know what a *wrench* is and asks, "What's that?"

B. The child produces a message and points to the wrong symbol. The child indicates the mistake and starts over.

C. The child produces a message about a *baby*. The partner assumes the child is talking about a baby sister. The child indicates, "No, my teacher's baby."

PARTNER BEHAVIORS (page 4 of the profile)

Functions

Varies communication functions

Partner uses communication for a variety of purposes including socializing, offering information, expressing feelings or attitudes, and teasing or pretending. (See Definitions of Child Target Behaviors, page 34, to specify these purposes.

Mode

Models use of augmentative communication technique(s)

The partner uses the child's specialized communication approach(es) to demonstrate how the child could say something, to expand upon what the child has said, or to communicate the partner's own message.

Examples:

A. The child wants to tell a third person about being in the school play, but doesn't know how. The partner knows the child's intent and points to symbols on the communication board for "I was in school play (verb)" and says the sentence aloud.

B. The child indicates on the communication board, "I ice cream." Partner points to the symbols on the communication board for "I want ice cream," and says the sentence aloud.

Mode

C. After returning from shopping, the partner signs to the child, "I saw your teacher at the store," and says the sentence aloud.

Discourse

Positions self appropriately

The partner situates self in relation to the child for adequate access to the child's communication techniques.

Examples:

A. The child has some intelligible speech but cannot project loudly across the room. The partner sits near the child to hear.

B. The child uses a manual communication board. The partner moves close to the child to see the symbols the child points to.

C. The child uses sign language. The partner makes sure the child is easily within vision.

Provides pause time

The partner will be silent for at least four seconds after producing an utterance.

Examples:

A. The partner says, "I had a good day today," and pauses for at least four seconds before saying anything else.

B. The partner says, "Tell me about the party," and pauses for at least four seconds before saying anything else.

Modifies questions

Partner revises *yes/no* and short-answer questions to statements, comments, or open-ended questions that provide opportunity for more complex child messages. (Exceptions may be made for questions that confirm or clarify the child's topic.)

Examples:

A. The partner converses with the child about the school day. The partner says, "I had a busy day at work today," or "Tell me about your day" (instead of "How was your day?" or "What did you do at school?").

B. It's late morning. The child vocalizes displeasure. The partner says, "I'm getting hungry" (instead of, "Are you hungry?").

C. The partner and child are deciding on a field trip. The partner says, "I wonder what kind of trip would be fun," or "There must be lots of places you'd like" (instead of "Do you want to go to the zoo?" or "How about the aquarium?")

An exception would be if the child points on the communication board, but the pointing is not precise. The partner, unsure which symbol the child is indicating asks, "Are you pointing to *hot dog*?"

TABLE 3-2
PACT Interaction Profile

PACT Interaction Profile Summary Sheet

(See administration instructions on page 32.)

STEP 1

Identifying Information

Names of Child/Partner: John / Mom

Child's Date of Birth: 2/20/73 Date of Recording: 7/10/86

Clinician: OC / MC

STEP 3

Communication Contexts

Context 1 Snack

Start # 220 Corresponding Message: "We have to stir this 'til it thickens up."

Stop # 930 Corresponding Message: "Movie ... make a movie out of you."

Context 2 Craft (make up; masks)

Start # 1435 Corresponding Message: "... look like candy ... ice cream sticks."

Stop # 1931 Corresponding Message: "Okie, dokie"

STEP 11

Quantitative Observations (compiled from both contexts)

Time: Total time for Context 1 8 min, 20 sec Total time for Context 2 9 mins, 5 sec

Frequency: 50 / 250 child messages/total messages (partner + child)

Intelligibility: 38 / 50 successful child messages/total child messages

Predominant Child Functions: Answers Y/N ?'s* Answers Other ?'s Requests Information Offers Information

Comments: * 7 were ambiguous

STEP 12

Qualitative Observations

Observations About the Child's Communication System: Try use of Skinprinter; adapt easel so John can see to drive wheelchair

Mode and Discourse Observations: John used his comm. board only twice during coded interactions; he perseverated on "going home." John relied primarily on residual speech.

STEP 13

Summary Observations

Interaction Characteristics: Mom dominates interaction with lots of questions. Ambiguous vocalizations sometimes ignored. John maintains focus well but needs to improve eye contact.

Child Behaviors

Strengths: Some limited topic establishment; some evidence of strategies for mode use; attends well to partner

Needs: Increase strategies for mode use; establish topics; answer other questions (without ambiguity)

Partner Behaviors

Strengths: Reinforces child messages; elaborates messages; varies functions; positions self appropriately

Needs: Model use of John's communication board; modify questions (esp. Y/N ?'s); increase pause time

STEP 14

Additional Comments: Reinforce eye contact from John (to facilitate feedback to partner)

TABLE 3-2 (continued)
PACT Interaction Profile

Child Behaviors (Page 3 of 4)

Quantitative Observations

Communicative Messages
Number 1-25; put a slash through unsuccessful messages (2); circle ambiguous messages (②)

Function	Context 1	Context 2	Totals for Each Context 1	Totals for Each Context 2
Socializes (S)		15	0	1
Answers yes/no questions (AYN)	4, 5, 6, 15, 14, 17, 18	①, 4, 8, 10, 11, 12, 13, 18, 23	7	9
Answers other questions (AOQ)	⑪, 13, 14, 21, ~~22~~, ㉔	~~2~~, 3, ⑨, 19, ⑳, 21, ㉒, 24	6	8
Offers information (OI)	12, 20, 25	6	3	1
Request assistance/ object/action (RAOA)	2, 3	17	2	1
Requests information (RI)	9, 10, 19	5, 16	3	2
Expresses feelings and attitudes (EFA)			0	0
Teases/pretends (TP)			0	0
Other (O)	① ~~20~~ ~~8~~ 23	7, ⑭, 25	4	
		Context Totals:	25	25

STEP 6

Total Number of Child Messages: 50

Intelligibility Ratio
(Successful child messages/total child messages): 19 / 25 | 19 / 25

Qualitative Observations
[Performance Codes: A, B, C, D, N.O. (No opportunity)]

STEP 7

Mode: (circle those noted) Eye Gaze Facial Expression (Gesture) (Speech)

Sign (Vocalization) (Augmentative Technique(s)) Comm board / Rebus symbols

Comments: Used board x2 (Mom prompted once)

	Perf. Code Rating Context 1	Perf. Code Rating Context 2
Mode Demonstrates strategies for mode use according to partner/situation	C	D
Discourse Responds to partner's communication	B	B
Secures partner's attention	A*	A*
Establishes topic	B**	C
Sustains topic	D	D
Recognizes feedback from partner	C	C
Provides feedback to partner	C	C
Repairs communication breakdown	D	D

* Mom always gave full attention
** Perseverated on going home

TABLE 3-2 (continued)
PACT Interaction Profile

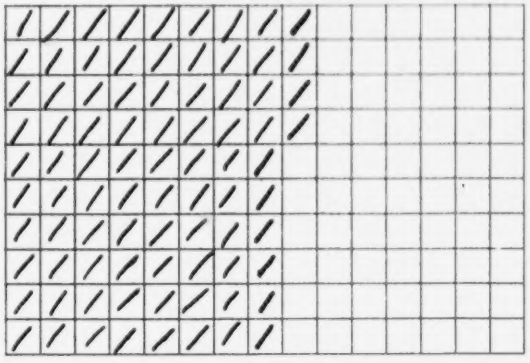
Partner Behaviors (Page 4 of 4)

STEP 8

Quantitative Observations

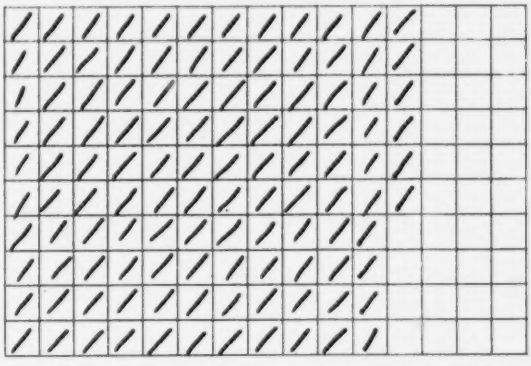
Communicative Messages
Place a slash (/) in the grid for each communication message produced. Do not count requests for clarification.

Context 1



Total: 84

Context 2



Total: 116

Total Partner Messages for Both Contexts: 200

STEP 9

Qualitative Observations
[Performance Codes: A, B, C, D, N.O. (No Opportunity)]

	Context 1	Context 2
Functions Varies functions (socializes, answers yes/no questions, answers other questions, offers information, requests assistance/object/action, requests information, expresses feelings/attitudes, teases/pretends, other)	A	A
Mode Models use of augmentative technique(s)	D	C
Discourse Positions self appropriately	A	A
Provides pause time	C*	C*
Modifies questions	C	D
Reinforces child messages	B	A
Confirms child messages	B	A
Elaborates child messages	A	A

Comments: * Not used as a strategy

Step 1—Review the Interaction Profile form and complete the Identifying Information section on the Summary Sheet (page 61).

Step 2—Reset the video-counter to "0000," start the recorder, time the 3-minute lead time, and stop the tape. (This step may be omitted if a time generator is used.

Step 3—The clinician notes on page 1 of the profile the start number on the video-counter and the partner message that directly precedes the first child message to be transcribed.

A communicative message is defined as a spontaneously formulated, completed unit that clearly attempts to contribute meaning to the conversation. A message must have at least one clear lexical referent.

A communicative message excludes physical signals without specific verbal referents as well as exchanges to formulate a message or to repair communication breakdown.

Examples of a variety of communicative messages are given in Table 3.3.

TABLE 3.3
Examples of Communicative Messages

Example 1

Partner: "What do you want for lunch?"
Child: Points to symbol for *I*
Partner: (Confirms) "I."
Child: Points to symbol for *want.*
Partner: (Confirms) "Want."
Child: Points to symbol for *hamburger.*
Partner: "Okay." (Confirms) "Hamburger."

The following two communicative messages were produced by the partner:
"What do you want for lunch?"
"Okay."

The following communicative message was stated by the child:
"I want hamburger."

Example 2

Child: "School fun."
Partner: "Really?"
Child: "Mrs. Kraft. Computer. Me."
Partner: "Mrs. Kraft let you use the computer?"
Child: "Uh huh."
Child: "New game."
Partner: "Well, I can see how you had fun at school today—you played a new game on the computer."

The following two communicative messages were stated by the partner:
"Really?"
"Well, I can see how you had fun . . ."

The following three communicative messages were produced by the child:
"School fun."
"Mrs. Kraft. Computer. Me."
"New Game."

Example 3

Partner: "Do you want a bun?"
Child: "Uh, huh."
Partner: "How 'bout ketchup?"
Child: "Uh, huh."
Child: Points to **C.**
Partner: "C."
Child: Points to **H.**
Partner: "H."
Child: Points to **I.**
Partner: (Guesses) "Chips?"
Child: "Uh, huh."

The following two communicative messages were stated by the partner:
"Do you want a bun?"
"How 'bout ketchup?"

The following three communicative messages were produced by the child:
"Uh, huh."
"Uh, huh."
"Chips."

Example 4

Child: Points to **I.**
Partner: *"I."*
Child: Points to *want.*
Partner: "Want."
Child: "Uh, huh."
Child: Points to *have.*
Partner: "Okay, I have."
Child: Points quickly to *new shoes.*
Partner: "I have new shoes."

No communicative messages were stated by the partner.

One communicative message was stated by the child:
"I have new shoes."

Example 5

Child: Puts index finger in mouth.
Partner: "Oh, you need a straw."
"I got the bendable straws this time."
Child: Smiles and vocalizes. No specific lexical referent identified.

The following communicative message was indicated by the partner:
"I got the bendable straws this time."

The following communicative message was stated by the child:
"Straw."

Step 4—To transcribe the child communicative messages on the Transcription Sheet (page 2 of the profile), start the videotape and write down the child's first message. Based on the Interaction Profile definitions, note on page 2 the function (page 34), effect (pages 33-34), and mode(s) (page 35). This notation requires careful attention to the child and partner behaviors. The possibility of making notations continuously will vary depending on your experience as well as the complexity and rate of the messages. Some messages may require a second or third viewing. Even during continuous notation, stop and rewind the tape after every three messages to review and check notations. Continue with this procedure until 25 consecutive child messages have been transcribed or until the entire 20-minute tape has been viewed. On page 1 of the profile, record the stop number on the video-counter and the corresponding message.

Step 5—To transfer information on page 2 to the grid at the top of page 3 of the profile, write the number of the message in the grid next to the type of function that message serves.

Example: (taken from page 2 of the sample profile)

John
Message 1: Ambiguous vocalization
Message 2: "Mom . . . hand"
Message 3: "Spoon"
Message 4: (Nods) "Yes"

In this example, John's first message was ambiguous and the intended function was unknown, so the number **1** is recorded and circled in the box next to Other. The second message was a request for object/assistance, so the number **2** is recorded in the box next to Requests Assistance/Object/Action. The third message is again a request for an object, so the number **3** is recorded in Requests Assistance/Object/Action. The fourth message answers a yes/no question, so the number **4** is recorded in Answers Yes/No Questions.

If the intended *function* of a message is unclear, the message should be noted and circled under Other.

If the intended function of a message cannot be appropriately included in one of the functions provided, that message should also be noted under Other.

If the message is unsuccessful, place a slash through the message number.

Step 6—Total the numbers and types of child communication messages at the right side of page 3 of the profile and calculate the intelligibility ratio, which is the number of successful child messages divided by the total number of child messages (successful + unsuccessful + ambiguous) The total number of messages will frequently be 25.

Step 7—Focus next on Child Behaviors, Qualitative Observations, at the bottom of page 3 of the profile. If the first viewing of the tape was not sufficient to effectively complete the Qualitative Observations, a second viewing of the transcribed segment of the tape may be necessary.

a. On page 3 of the profile, specify (circle) the communication modes noted on page 2 of the profile.

b. Rate the child's modes and discourse skills (A, B, C, D, or No Opportunity). See Performance Code definitions on page 37.

Step 8—View the segment of the tape designated in Step 4 a second time to (1) time the segment and (2) make observations about the partner. Note the time or start a stopwatch when starting the tape at child communication message 1. Record the number of partner messages (with a dot or a slash) on the grid at the top of page 4 under Quantitative Observations. Immediately upon completion of the child's 25th message, note the time or stop the stopwatch and record the total time on page 1 of the profile (Summary Sheet).

Total the number of partner communication messages.

Step 9—Focus on the Partner Qualitative Observations section of page 4. Rate the partner's communication skills (A, B, C, D, or No Opportunity). See Performance Code definitions on page 37.

Step 10—Repeat Steps 2-9 for the second communication context. If the two video contexts are recorded consecutively, it is not necessary to exclude the first 3 minutes of the second context.

Step 11—Complete the Quantitative Observations section on page 1, based on *both* communicative contexts.

Time—Time is the total number of minutes/seconds for each of the 25 consecutive message contexts. When 25 consecutive messages are not produced, the time for that context will be 20 minutes.

Frequency—This is the total number of child messages for both contexts divided by the total number of messages of the partner and child together.

Intelligibility—This is the number of successful child messages divided by the total number of child messages.

Predominant Child Functions—List the three or four most frequently occurring child functions as determined from the totals of both contexts. A comments line is provided for noting pertinent information; for example: Were all instances of a particular function ambiguous? Were behaviors appropriate?

Step 12—Complete the Qualitative Observations section on page 1 of the profile, based on both communicative contexts.

Observations About the Child's Communication System—Make observations about the child's communication system as a whole, paying particular attention to dimensions of augmentative technique(s) and user strategies.

Here are several questions to consider:

1. Does at least one of the modes offer an attention-getting signal and quick, reliable yes/no response?
2. Does the combination of modes provide access to enough vocabulary to answer other questions, offer information, express feelings, sustain the topic, etc.?
3. Are transmission techniques as fast and efficient as possible?
4. Which available modes noted are most intelligible to the partner? Are some unintelligible?
5. Does the system provide access to helpful cues ("It's not on my board," or "The first letter is _____") or signals ("That was a mistake so I'll start over," or "Guess").

Mode and Discourse Observations—The clinician summarizes the child/partner mode and discourse ratings.

Step 13—Complete page 1 of the profile based on both communicative contexts.

Interaction Characteristics—Note general interaction characteristics such as active/passive roles, participant enjoyment or frustration, and general communicative complexity.

Strengths and Needs (of Partner and Child)—Note the strengths and needs of each partner based on the function, mode, and discourse behaviors of both participants. If you wish to discuss the profile observations, encourage the child and partner to relate the observations to their daily communication experiences. Together, based on the needs noted and child/partner feedback, the clinician, child, and partner agree upon appropriate goals for communication intervention. Suggestions for interpretation and goal selection are provided later in this chapter.

Step 14—Make any necessary additional comments, such as identifying prerequisite skills that may need to be addressed before attending to a specific behavior or commenting on other behaviors that may need to be indirectly addressed in therapy.

Reliability

Reliability has consistently been a difficult issue in coding the communication interactions of normal and disordered dyads. A reliability study was conducted in conjunction with the PACT Pilot Project. This study indicated that trained practiced observers were capable of correlation coefficients of $\geq .87$ for all behaviors assessed for repeated observations. For more information, see Chapter 6.

Clinicians beginning to use the profile should do at least one spot (one context or 25 child-communicative messages) intra-observer reliability check to be sure of their skills. Where possible, sitting down and talking through a videotape with another clinician may be productive.

Interpretation

General Guideline—In interpreting the results of the Interaction Profile and developing an intervention plan, keep in mind the following five *assessment questions:*

1. Which behaviors need to be developed as prerequisites to other behaviors?
2. Which behaviors appear most responsive to intervention?
3. Which behaviors would have the greatest impact on the interaction?
4. Which behaviors are of greatest interest to the child and partner?
5. Which child/partner behaviors best complement each other in intervention?

The hierarchical order and of function and discourse behaviors should be kept in mind when choosing target behaviors. Use of these guidelines can best be illustrated with a case study.

Case Study

The interactions of John and his mother are notated in the sample Interaction Profile in Table 3-2.

Summary Sheet: Identifying Information—This dyad consisted of John, a 12-year-old male child, and his mother. Two communication contexts were used for videotaping. For Context 1, John and his mother made a snack together (from several choices: popcorn, pudding, juice, chocolate milk, and crackers). Context 2 was a craft activity that consisted of creating a "new look" for one or both partners with masks or makeup.

QUANTITATIVE OBSERVATIONS

Time—Total time for obtaining 25 child messages in Context 1 was 8 minutes, 20 seconds; total time in Context 2 was 9 minutes, 5 seconds.

Frequency—John had 25 messages in each context for a total of 50 messages. His mother had 200 messages. Their combined messages totaled 250. Therefore, John's messages accounted for only one-fifth of the total messages. This figure gives the clinician some idea of how much a given interaction is dominated by one participant.

Intelligibility—Only 38 (76%) of John's total messages were successful. The others were either ambiguous or unsuccessful or both.

Predominant Child Functions—John's message functions consisted primarily of answering yes/no questions and other questions. Note that 7 of the 15 answers to other questions were ambiguous. Upon referring to John's transcription sheet (page 2 of the profile), other functions when present were generally one-word messages such as "how?" (requesting information), "spoon" (requesting assistance/object/action), and "movie" (offering information).

QUALITATIVE OBSERVATIONS

Observations About Child's Communication System—The clinician noted that John's communication-board easel needed to be adapted so that John could see to drive his new wheelchair. In addition, she recommended that John try a chinpointer in place of his headpointer to facilitate eye contact.

Mode and Discourse Observations—John used his communication board only twice in the total time of videoanalysis. He relied primarily on residual speech for communicating with his mother. His limited ability to establish a topic was complicated by the fact that he appeared to be perseverating on "going home." Some of John's ambiguous vocalizations were ignored by his mom.

SUMMARY OBSERVATIONS

Interaction Characteristics—John's mother clearly dominated the interaction with lots of questions. John had some ambiguous vocalizations that were ignored and others that his mother apparently understood. John attended well to her communication and maintained the focus of the interaction.

Child Behaviors/Strengths—John's strengths included responsiveness to his mom's communication and an emerging ability to establish a topic. His ability to answer yes/no questions and other questions was consistent although, again, many of the answers were ambiguous to the clinicians and to his mom.

Child Behaviors/Needs—Typically the Needs section addresses the most basic profile behaviors the child has difficulty with. John's needs involved developing strategies for mode use (to decrease the ambiguity of his messages), answering other questions (using an appropriate/effective mode), and establishing topics.

Partner Behaviors/Strengths—His mother's strengths included reinforcement of John's messages, elaboration of the messages (when understood), varying functions, and positioning self appropriately.

Partner Behaviors/Needs—John's mother's needs were determined to be modeling the use of John's augmentative technique, providing pause time, and modifying questions—especially yes/no questions.

After reviewing the Interaction Profile and discussing the findings with the child and the partner, the clinician develops an Intervention Plan, Table 4-7. Goals chosen for intervention should take into account the five assessment questions posited earlier in this chapter. The Intervention Plan will be further discussed in Chapter 4.

Conclusion

Upon completion of the Assessment Guidelines, the clinician has a good data base regarding child-partner communication attitudes and interaction skills to begin to plan intervention. The Assessment Guidelines can be re-administered periodically to assist the clinician in monitoring a dyad's progress in the development of conversational interaction skills.

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CHILD RATING SCALE: ADMINISTRATION INSTRUCTIONS

Administer the Child Rating Scale in a quiet area without distractions or others present. Administration time may vary depending on the child's response rate, but 15-20 minutes are required. The clinician should be knowledgeable enough about the child's transmission techniques with augmentation to readily determine an appropriate response pattern for completion of this scale. The child must be able to reliably indicate 5 points. For some direct-selection techniques such as gross hand-pointing or eye gaze, it may be helpful to copy the circle answer codes on page 49, cut them out, and mount them farther apart. Manual scanning (the clinician points to each circle) at an appropriate rate for the child may also be used.

1. With the child, discuss and agree on the transmission technique to be used.
2. Show the circle answer codes to the child and explain what each circle means.

   Smallest circle:
   That's very wrong/Strongly disagree

   Next circle:
   That's a little wrong/Disagree

   Middle circle:
   That's not right or wrong/Neutral

   Next circle:
   That's a little right/Agree

   Largest circle:
   That's exactly right/Strongly agree
3. Ask the child to indicate each answer ("Show me *very wrong.*" "Show me *exactly right.*"). This gives the clinician an opportunity to observe reliability of means to indicate and comprehension of labels.
4. Say, "Now I'm going to read you a sentence about how you or your _____ (partner) feels. You show me the circle you think tells best how you or your _____ (partner) feels about the sentence. There is not a correct or incorrect answer. I want to know how you and your _____ (partner) are really feeling. Just point to the circle. Let's try one."
5. Place the answer circles in front of the child and read the first example (A) statement aloud. Then say (pointing to each circle): "Is that sentence very wrong, a little wrong, or exactly right about how you feel? Show me the circle that shows how you feel. Remember, there is no correct or incorrect answer. I just want to know how you feel." Circle the child's answer on the rating-scale form and confirm it with the child ("You pointed to *very wrong.* That must mean you really don't like candy."). If the child confirms that meaning, reinforce the child for listening and for expressing feelings about the sentence.
6. Read the second example (B), filling in the blank with the partner's name ("Mom" or "Miss Brown"). Be sure the child understands who the partner is. Then read the remaining sample statements (C and D).
7. If the child confirms the meaning on both examples, begin administering the scale items just as the examples were administered but without confirmation. If the child does not point or confirm on the first examples, repeat those examples and administer the second examples. If the child successfully completes the second examples, begin to administer the scale. If the child fails to successfully complete the task after two administrations of the second examples, the scale should not be administered.

Talking should be defined as *talking with your mouth* or *speaking.* Determine if more than one augmentative technique is to be addressed (sign language and communication board, or communication board and electronic aid). Discussion of more than one technique makes the task more complex. However, statements involving augmentative techniques have been repeated twice in case the clinician wishes to address two techniques. Before administration of the test, agree with the child on the names/labels used for the techniques. The same augmentative technique labels should also be used in the same order (a. versus b.) on the Partner Rating Scale. Occasionally use confirmations during the scale to be sure the child continues to understand the task.

At no time should the child be reinforced for *what* her or his opinions are. Provide intermittent reinforcement for listening, pointing, and expressing feelings about the sentence. When the twenty statements have been completed, you may wish to clarify some of the responses.

Example:
"John, I noticed that you think your teacher really doesn't like you to use your communication board. I'd like to know more about that. Why do you think that?"

After any clarifications, record the child's responses on the Rating Scale Summary Sheet for later comparison to partner responses.

The circle answer codes on the facing page provide five levels of response for the child. Establish a meaning for each circle from *very wrong/strongly disagree* to *exactly right/strongly agree* (see page 47). Be sure the child understands the gradations in meaning.

The circle answer codes are reproducible so you may copy and remount them for the child's convenience. The remounted circles may be laminated for durability.

Child Rating-Scale Circles

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PACT
Child Rating Scale

Child's Name: _____

Date: _____

Partner's Name: _____ Clinician: _____

Names/Descriptions of Augmentative Technique(s):

(1) _____

(2) _____

See administration instructions.

i. a. I like candy.

very wrong | a little wrong | not right or wrong | a little right | exactly right

b. _____ (partner's name) likes candy.

very wrong | a little wrong | not right or wrong | a little right | exactly right

ii. a. I like to eat spiders.

very wrong | a little wrong | not right or wrong | a little right | exactly right

b. _____ (partner's name) likes to eat spiders.

very wrong | a little wrong | not right or wrong | a little right | exactly right

---

1. I like to talk.

very wrong | a little wrong | not right or wrong | a little right | exactly right

2. _____ (partner's name) likes me to talk.

very wrong | a little wrong | not right or wrong | a little right | exactly right

3. Other people like me to talk.

very wrong | a little wrong | not right or wrong | a little right | exactly right

4. a. I like to use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

b. I like to use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

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5. a. _____ (partner's name) likes me to use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

b. _____ (partner's name) likes me to use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

6. a. Other people like me to use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

b. Other people like me to use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

7. I feel good about the way I talk.

very wrong | a little wrong | not right or wrong | a little right | exactly right

8. _____ (partner's name) feels good about the way I talk.

very wrong | a little wrong | not right or wrong | a little right | exactly right

9. a. I feel good about the way I use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

b. I feel good about the way I use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

10. a. _____ (partner's name) feels good about the way I use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

b. _____ (partner's name) feels good about the way I use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

11. a. I think it is important to use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

b. I think it is important to use my _____ (augmentative technique).

very wrong | a little wrong | not right or wrong | a little right | exactly right

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12. a. _____ (partner's name) thinks it is important for me to use my _____ (augmentative technique).

very wrong	a little wrong	not right or wrong	a little right	exactly right

b. _____ (partner's name) thinks it is important for me to use my _____ (augmentative technique).

very wrong	a little wrong	not right or wrong	a little right	exactly right

13. a. I understand how to use my _____ (augmentative technique).

very wrong	a little wrong	not right or wrong	a little right	exactly right

b. I understand how to use my _____ (augmentative technique).

very wrong	a little wrong	not right or wrong	a little right	exactly right

14. a. _____ (partner's name) understands how to use my _____ (augmentative technique).

very wrong	a little wrong	not right or wrong	a little right	exactly right

b. _____ (partner's name) understands how to use my _____ (augmentative technique).

very wrong	a little wrong	not right or wrong	a little right	exactly right

15. a. I think I need to use my _____ (augmentative technique) to do better in school.

very wrong	a little wrong	not right or wrong	a little right	exactly right

b. I think I need to use my _____ (augmentative technique) to do better in school.

very wrong	a little wrong	not right or wrong	a little right	exactly right

16. a. _____ (partner's name) thinks I need to use my _____ (augmentative technique) to do better in school.

very wrong	a little wrong	not right or wrong	a little right	exactly right

b. _____ (partner's name) thinks I need to use my _____ (augmentative technique) to do better in school.

very wrong	a little wrong	not right or wrong	a little right	exactly right

17. When I talk, I can say what I want to say.

very wrong	a little wrong	not right or wrong	a little right	exactly right

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18. a. When I use my _____ (augmentative technique), I can say what I want to say.

very wrong	a little wrong	not right or wrong	a little right	exactly right

b. When I use my _____ (augmentative technique), I can say what I want to say.

very wrong	a little wrong	not right or wrong	a little right	exactly right

19. When I talk, I can make most people understand.

very wrong	a little wrong	not right or wrong	a little right	exactly right

20. a. When I use my _____ (augmentative technique), I can make most people understand.

very wrong	a little wrong	not right or wrong	a little right	exactly right

b. When I use my _____ (augmentative technique), I can make most people understand.

very wrong	a little wrong	not right or wrong	a little right	exactly right

Additional Information:

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PARTNER RATING SCALE: ADMINISTRATION INSTRUCTIONS

Prior to presenting the partner with the Partner Rating Scale, fill in the child's name, partner's name, descriptions of augmentative techniques, and names of the augmentative techniques in items 4-6, 9-16, 18, and 20-22. The partner then completes the scale in private. Most partners are able to complete the scale in 10-15 minutes. When the partner returns the scale, the clinician may wish to clarify some answers.

Example:
"I noticed that you like your child to use his communication board but that you felt he did not like it. Can you tell me a little more about that?"

Record clarifications provided by the partner under Additional Information.

All partner responses are transferred to the Rating Scale Summary Sheet for comparison to the child's responses. The clinician circles on the summary sheet any inconsistencies in child/partner reports.

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PACT
Partner Rating Scale

Child's Name: _____

Date: _____

Partner's Name: _____ Clinician: _____

Names/Descriptions of Augmentative Techniques:

(1) _____

(2) _____

ASSESSMENT

Read each statement and circle the rating that best describes your feelings about it. The word **talk** refers only to talking by mouth or speech.

1. _____ (child's name) likes to talk.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

2. I like for _____ (child's name) to talk.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

3. Other people like for _____ (child's name) to talk.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

4. a. _____ (child's name) likes to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. _____ (child's name) likes to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

5. a. I like for _____ (child's name) to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. I like for _____ (child's name) to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

6. a. Other people like for _____ (child's name) to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. Other people like for _____ (child's name) to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

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7. _____ (child's name) feels good about the way he/she talks.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

8. I feel good about the way _____ (child's name) talks.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

9. a. _____ (child's name) feels good about the way he/she uses the _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. _____ (child's name) feels good about the way he/she uses the _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

10. a. I feel good about the way _____ (child's name) uses his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. I feel good about the way _____ (child's name) uses his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

11. a. _____ (child's name) thinks it is important to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. _____ (child's name) thinks it is important to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

12. a. I think it is important for _____ (child's name) to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. I think it is important for _____ (child's name) to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

13. a. _____ (child's name) understands how to use his/her _____ (augmentative technique).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

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b. _____ (child's name) understands how to use his/her _____ (augmentative technique).

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

14. a. I understand how to use _____'s (child's name) _____ (augmentative technique).

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

b. I understand how to use _____'s (child's name) _____ (augmentative technique).

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

15. a. _____ (child's name) thinks he/she needs to use his/her _____ (augmentative technique) to do better in school.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

b. _____ (child's name) thinks he/she needs to use his/her _____ (augmentative technique) to do better in school.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

16. a. I think _____ (child's name) needs to use his/her _____ (augmentative technique) to do better in school.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

b. I think _____ (child's name) needs to use his/her _____ (augmentative technique) to do better in school.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

17. When talking, _____ (child's name) can say most things he/she wants to say.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

18. a. When using _____ (augmentative technique), _____ (child's name) can say most things he/she wants to say.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

b. When using _____ (augmentative technique), _____ (child's name) can say most things he/she wants to say.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

19. When _____ (child's name) talks, he/she can make most people understand.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

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20. a. When _____ (child's name) uses the _____ (augmentative technique), he/she can make most people understand.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. When _____ (child's name) uses the _____ (augmentative technique), he/she can make most people understand.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

21. a. Using the _____ (augmentative technique) may improve _____'s (child's name) speech.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. Using the _____ (augmentative technique) may improve _____'s (child's name) speech.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

22. a. The rewards for using _____ (augmentative technique) justify my efforts to do so.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

b. The rewards for using _____ (augmentative technique) justify my efforts to do so.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

23. _____'s (child's name) present augmentative communication technique(s) suits his/her current needs and abilities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Please use the space below to express your observations and concerns about your child's communication.

Additional Information:

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PACT
Rating Scale Summary Sheet

Child's Name: _____ Partner's Name: _____

Date: _____

Code child/partner responses as follows:

1 = Very wrong/Strongly disagree
2 = A little wrong/Disagree
3 = Not right or wrong/Neutral
4 = A little right/Agree
5 = Exactly right/Strongly agree

No.	Topic	Child	Partner
	Like		
1	Child Talk		
2	Partner Talk		
3	Others Talk		
4	Child A.T. (a)		
	Child A.T. (b)		
5	Partner A.T. (a)		
	Partner A.T. (b)		
6	Others A.T. (a)		
	Others A.T. (b)		
	Feel Good		
7	Child Talk		
8	Partner Talk		
9	Child A.T. (a)		
	Child A.T. (b)		
10	Partner A.T. (a)		
	Partner A.T. (b)		
	Importance		
11	Child A.T. (a)		
	Child A.T. (b)		
12	Partner A.T. (a)		
	Partner A.T. (b)		

No.	Topic	Child	Partner
	Understand Use		
13	Child A.T. (a)		
	Child A.T. (b)		
14	Partner A.T. (a)		
	Partner A.T. (b)		
	School Performance		
15	Child A.T. (a)		
	Child A.T. (b)		
16	Partner A.T. (a)		
	Partner A.T. (b)		
	Expression		
17	Talk/Can Say		
18	A.T./Can Say (a)		
	A.T./Can Say (b)		
	People's Understanding		
19	Talk/Understand		
20	A.C./Understand (a)		
	A.C./Understand (b)		
21	Speech Improvement		
22	Rewards/Efforts		
23	Suitability of A.T.		

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PACT Interaction Profile Summary Sheet

(See administration instructions on page 32.)

Identifying Information

Names of Child/Partner: _____

Child's Date of Birth: _____ Date of Recording: _____

Clinician: _____

Communication Contexts

Context 1 _____

Start #_____ Corresponding Message: _____

Stop #_____ Corresponding Message: _____

Context 2 _____

Start #_____ Corresponding Message: _____

Stop #_____ Corresponding Message:

Quantitative Observations (compiled from both contexts)

Time: Total time for Context 1 _____ Total time for Context 2 _____

Frequency: _____ / _____ child messages/total messages (partner + child)

Intelligibility: _____ / _____ successful child messages/total child messages

Predominant Child Functions: _____

_____

Comments: _____

Qualitative Observations

Observations About the Child's Communication System: _____

_____

Mode and Discourse Observations: _____

_____

Summary Observations

Interaction Characteristics: _____

_____

Child Behaviors	***Partner Behaviors***
Strengths: _____	Strengths: _____
_____	_____
_____	_____
Needs: _____	Needs: _____
_____	_____
_____	_____

Additional Comments: _____

_____

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Transcription Sheet—Child Messages

Context 1

Transcription of Child Messages	Mode*	Function**	Effect***
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			

Context 2

1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
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Modes:
- AT = Aug Tech
- E = Eye Gaze
- F = Facial Exp
- G = Gest
- V = Vocalize
- S = Speech
- Sg = Sign

**Functions:*
- S = Socializes
- AYN = Answers Y/N Questions
- AOQ = Answers Other Questions
- OI = Offers Information
- RAOA = Requests Assistance/Object/Action
- RI = Requests Information
- EFA = Expresses Feelings/Attitudes
- TP = Teases/Pretends
- O = Other

***Effect:*
- S = Successful
- / = Unsuccessful
- 0 = Ambiguous

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Quantitative Observations

Communicative Messages
Number 1-25; put a slash through unsuccessful messages (2); circle ambiguous messages (②)

Function	Context 1	Context 2	Totals for Each Context 1	2
Socializes (S)				
Answers yes/no questions (AYN)				
Answers other questions (AOQ)				
Offers information (OI)				
Request assistance/ object/action (RAOA)				
Requests information (RI)				
Expresses feelings and attitudes (EFA)				
Teases/pretends (TP)				
Other (O)				
		Context Totals:		

Total Number of Child Messages: _____

Intelligibility Ratio
(Successful child messages/total child messages): _____ / _____ _____ / _____

Qualitative Observations
[Performance Codes: A, B, C, D, N.O. (No opportunity)]

Mode: (circle those noted) Eye Gaze Facial Expression Gesture Speech

Sign Vocalization Augmentative Technique(s) _____

Comments: _____

	Perf. Code Rating Context 1	Context 2
Mode Demonstrates strategies for mode use according to partner/situation		
Discourse Responds to partner's communication		
Secures partner's attention		
Establishes topic		
Sustains topic		
Recognizes feedback from partner		
Provides feedback to partner		
Repairs communication breakdown		

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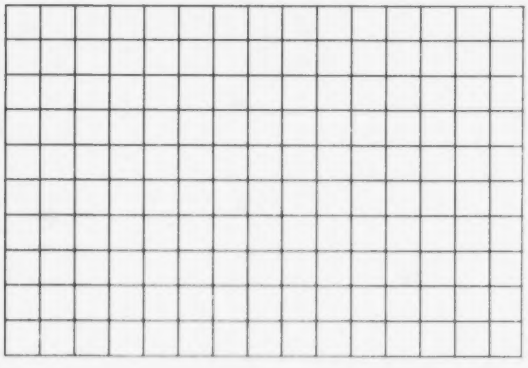
Partner Behaviors

Quantitative Observations

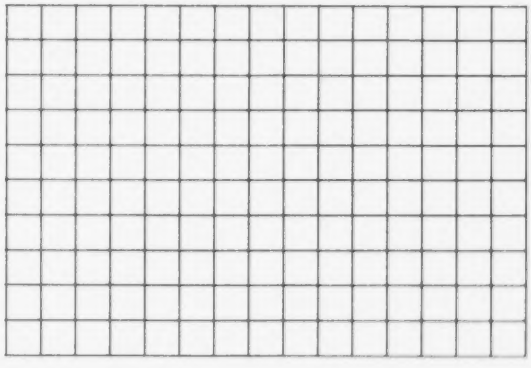
Communicative Messages
Place a slash (/) in the grid for each communication message produced. Do not count requests for clarification.

Context 1



Total: _____

Context 2



Total: _____

Total Partner Messages for Both Contexts: _____

Qualitative Observations

[Performance Codes: A, B, C, D, N.O. (No Opportunity)]

	Context 1	Context 2
Functions Varies functions (socializes, answers yes/no questions, answers other questions, offers information, requests assistance/object/action, requests information, expresses feelings/attitudes, teases/pretends, other)		
Mode Models use of augmentative technique(s)		
Discourse Positions self appropriately		
Provides pause time		
Modifies questions		
Reinforces child messages		
Confirms child messages		
Elaborates child messages		

Comments: _____

_____

_____

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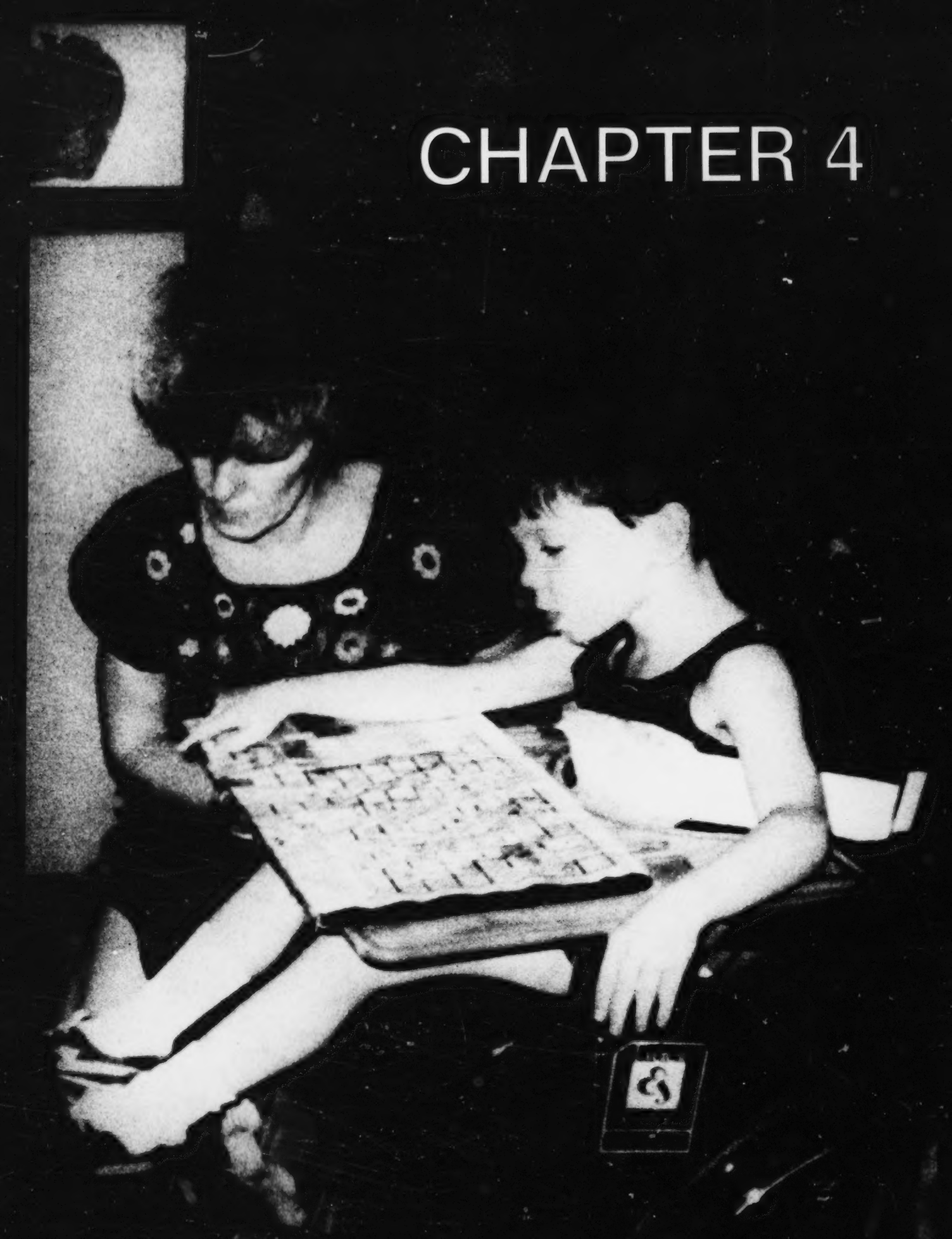
CHAPTER 4



CHAPTER 4

Communication Intervention Guidelines

To introduce the Communication Intervention Guidelines, review the eight basic assumptions in Chapter 1, pages 6 and 7.

The intervention program provides a preliminary set of guidelines as a resource for clinicians to design a conversational interaction facilitation program for an individual child and partner. Due to the bi-directional nature of augmented communication, intervention goals are directed not only toward the child but also toward the primary communication partner(s). All long-term goals focus on achieving the most functional possible performance in a variety of spontaneous conversational contexts. Individualization, relative to various communication system constraints, communication needs, and user/partner abilities, is possible because targeted behaviors can be chosen from those outlined in the Priority Communication Behaviors under the broad categories of function, mode, and discourse. In addition, goals can be modified to meet the needs of a particular dyad, or new goals can be developed based on the general goal format. As mentioned in Chapters 1 and 2, the specific behaviors in each category for the partner and the child represent those that have influenced the success of an augmented interaction and those that have been successfully targeted in other training programs.

This intervention is not meant to make augmented interactions like those between normal speakers. Rather, accepting the fact that augmented interactions are inherently different (Kraat 1985; Beukelman 1986), the Intervention Guidelines highlight behaviors typically of concern in augmented interactions and provide the partner and child with strategies to effectively use those behaviors in achieving more functional communication.

Conversational interactions should be rewarding for both participants, and it is to this end that the Intervention Guidelines should be directed in implementing an intervention program.

The Intervention Materials include the following:

- Intervention Plan, page 77
- Child Goals, pages 78-94
- Partner Goals, pages 95-102
- Worksheets, pages 103-115
- Language Activities, pages 116-118
- Communication Experience Activities, pages 118-119
- Roleplays, pages 119-120
- Script Possibilities, page 120

The following sections describe the basic format of the Intervention Goals as well as the activities, types of intervention sessions, and additional intervention procedures. A case study applying the intervention is also included.

INTERVENTION GOALS

In each Intervention Goal, a long-term goal and several short-term goals are provided for a particular behavior. The long-term goal reflects the specific behaviors noted in the Priority Communication Behaviors and provides the definition of those behaviors within the goal. For example, in the child goal of Secures Partner's Attention (Table 4-1), the behavior is defined as "will exhibit an intentional behavior to gain partner's attention." Note also that both the long- and short-term goals are written in a format not unlike that required for Individualized Educational Plans (IEPs).

The short-term goals generally progress hierarchically as follows:

- Identifying behavior in structured activities
- Demonstrating behavior in different structured communication activities when provided a prompt or model by the clinician
- Spontaneously demonstrating behavior in a series of different structured communication activities (no prompt or model)
- Demonstrating behavior in a series of different conversational contexts when provided a prompt or model by the clinician
- Spontaneously demonstrating behavior in a series of different conversational contexts (no prompt or model).

To better understand the format of the Intervention Guidelines, let's look closely at a child goal and a partner goal. Table 4-1 is a sample child goal (Secures Partner's Attention), and Table 4-2 is a sample partner goal (Models Use of Augmentative Technique).

TABLE 4-1
Child Behavior: Secures Partner's Attention
Intervention Goal (Discourse)

Long-Term Goal
The child will exhibit an intentional behavior to gain partner's attention, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals
The child will:

1. List and/or demonstrate, on three consecutive trials, all available behaviors for securing attention.

   Activities
   A. Let's Play Detective (Child is detective and wears special hat and glasses. Clinician asks child to discover/find all available ways to get attention. If child needs assistance, clinician asks questions such as "If I push this buzzer, will Dad be able to hear it if he is in the other room?" or "What if Mom is talking and you need to interrupt so you can use the restroom?" For each discovered/found behavior child receives a footprint with the attention-getting behavior pictured on it.
   B. PACT Worksheet: Child Secures Partner's Attention (page 111)

2. Secure partner's attention, given a prompt or model by the clinician, on 8/10 trials, in a series of different, structured communication activities.

   Activities
   A. Roleplay with role switching. Child pretends to be:
      Mom in a chair next to child
      Teacher across the room
      Stranger in an elevator
      Dad watching TV
      Brother wearing a radio headset

      Clinician models child's most appropriate way to secure attention in those situations. Then switch roles: clinician pretends to be Mom, etc., and child secures attention.
   B. Puppet Play (Child must secure puppet's attention when puppet's head is turned, back is to child, etc.)
   C. Language Activities (pages 116-118)

3. Spontaneously secure partner's attention, on 8/10 trials, in a series of different structured communication activities.

   Activities
   As in 2 above

4. Secure partner's attention when given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities
   A. Communication Experience Activities (pages 118-119)
   B. Real-Life Situations

5. Spontaneously secure partner's attention, on 8/10 trials, in a series of different conversational contexts.

   Activities
   As in 4 above

TABLE 4-2
Partner Behavior: Models Use of Augmentative Communication Technique(s) Intervention Goal (Mode)

Long-Term Goal
The partner will spontaneously use the child's augmentative technique(s) (as in modeling partner's own utterance, modeling child's utterance, or expanding child's utterance), on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals
The partner will:

1. Model use of the child's augmentative technique(s) given a prompt or model by the clinician, on 8/10 trials, in a series of structured communication activities.

   Activities
   A. Picture Description (Partner is given a picture to describe.)
   B. Topic Cards (Partner is given a topic card such as a baseball card or rock-star card and makes a comment or asks a question about the topic.)
   C. Roleplay/Script (Partner may be asked to roleplay child in high-occurrence natural-environment situations.)
   D. Language Activities (pages 116-118)

2. Spontaneously model use of the child's augmentative technique(s), on 8/10 trials, in a series of different structured communication activities.

   Activities
   As in 1 above (but turn-taking)

3. Model use of the child's augmentative technique(s) given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities
   A. Communication Experience Activities (pages 118-119)
   B. Real-Life Situations

4. Spontaneously model use of the child's augmentative technique(s), on 8/10 trials, in a series of different conversational contexts.

   Activities
   As in 3 above

Child Goal: (Table 4-1) Each short-term goal in this example represents hierarchical steps in the development of the skills to attain the long-term goal. For example, the first short-term goal is for the child to list or demonstrate on three consecutive trials all available behaviors for securing attention. Knowing the specific ways to gain attention is a prerequisite skill to the second short-term goal which requires gaining the partner's attention.

There may be other prerequisite skills a child should exhibit that are not necessarily addressed in a given set of goals. For instance, in Secures Partner's Attention, the first short-term goal implies the abilities to attend, follow directions, and signal correctly. Clinical judgment of the appropriateness of a particular goal and of the readiness of the child for that goal must be taken into account.

Partner Goal: Partner goals have a design similar to child goals. Table 4-2 provides an example of the long- and short-term goals for the partner behavior of "Models Use of Augmentative Communication Techniques." The long-term goal defines the behavior outlined in the Priority Communication Behaviors as in "use the child's augmentative technique" (modeling partner's own utterance, modeling child's utterance, or expanding child's utterance). The short-term goals are hierarchically based, progressing through a series of cued/spontaneous behaviors in either structured communication activities or in conversational contexts. Goals for the partner must be appropriate not only for the partner but for the child as well.

Proficiency: In both the child and partner goals, percentages have been avoided within a single context when determining proficiency, and proficiency is generally evaluated relative to the number of trials over a series of contexts. This is due primarily to the varying contexts in the activities throughout the goals and to the fact that spontaneous conversations do not easily lend themselves to

being quantified. Certainly in any given real-life conversation, it is impossible to determine just how many behaviors of a certain kind may or may not be appropriate. However, with the child goal of Securing Partner's Attention, it is possible to observe that the child successfully secured the partner's attention at least 8/10 of the total opportunities in a series of conversational contexts. In a single context, it may have been necessary for the child to secure the partner's attention only once. In terms of proficiency, it may be misleading to say that the child secured the partner's attention 100% of the time if during a single conversational context, once it was gained, the attention was never lost.

There are, no doubt, behaviors for both the partner and the child that do not lend themselves to any type of quantifiable tally. In fact, the partner long-term goal of modeling use of the augmentative communication technique on 8/10 trials in a series of different conversational contexts is somewhat arbitrary. Although we know that modeling has been shown to facilitate learning for communication-board users (Bottorf and DePape 1982; Musselwhite and St. Louis 1982), we do not know just how often modeling should occur—if it should occur with every partner utterance, half of the partner utterances, all of the partner utterances and half of the child utterances, etc. The clinician must judge how to assess the proficiency of the partner and child for their target behaviors.

One factor, appropriateness, is not directly addressed in the child/partner goals. It is up to the clinician to determine if targeted and nontargeted behaviors are appropriate for any given context. For example, if a child has been working on the relatively high-level goal of sustaining a topic, the clinician must note the distinct difference between sustaining a topic and perseverating on a topic. Similarly, if a partner goal is to elaborate the child's message, the partner must be cautioned against elaborating and thus *reinforcing* perseverative or inappropriate child messages. Indeed, the clinician will be the one responsible for determining that both the quantity and quality of the target behaviors for the partner and the child are appropriate and effective for a given context.

INTERVENTION ACTIVITIES

All short-term goals are supported by a series of activities involving the child, the partner, and the clinician. Activities may be described within the goal or provided in the activities listed on pages 116-121. **All activities should be individualized whenever possible according to the needs of the partner and the child.** Even in structured contexts, activities should address functional communication and facilitate carryover to spontaneous conversation.

A *structured communication activity* is designed to elicit a specific target behavior. These activities could include traditional language therapy activities involving picture cards, worksheets, roleplaying, etc. Whenever possible, even the drill-type activities should be conducted within the context of real-life situations to facilitate carryover.

Conversational contexts, on the other hand, are spontaneous conversations that can occur during communication experience activities (field trips, craft projects, cooking, etc.) or real-life situations that do not elicit a particular behavior. The structured activities as well as the context ideas for spontaneous conversations are *suggestions* that can be modified to fit the needs of a particular child and partner.

Worksheets, pages 103-115: Some of the activities listed for the short-term goals include worksheets designed to introduce a particular behavior. Table 4-3 shows a worksheet for the child goal of Secures Partner's Attention. Worksheets should be modified as appropriate depending on the child and partner. The situations may be simplified or made more complex depending on the developmental level of the child. Clinicians are encouraged to create individualized worksheets based on appropriate desired goals.

TABLE 4-3

PACT Worksheet—Child Secures Partner's Attention

What Are Your Attention-Grabbers?

Child: _____ Clinician: _____

Match the right attention-grabber (there may be more than one!) to the situation. (The clinician may need to photocopy grabbers and attach to the board or E TRAN for easier pointing or selection).

Situation	Child's Choice
1. You're in the back seat of the car on a trip and you need to go to the bathroom.	
2. You're at home in bed and you need a drink. Mom is in the kitchen.	
3. You're in the den with Dad. He's watching TV and you need to be moved so you can see too.	
4. You're sitting next to Mom at McDonald's. You're ready for another sip of your drink.	
5. Mom is giving you a bath. You need to tell her you'd like her to wash your hair.	
6. You're at school. You've finished your assignment and need another one. Your teacher is at her desk.	
7. You want to play cards with your _____ (sister/brother/friend). She or he is in front of you watching TV.	
8. You're in a movie theater. Mom is sitting next to you, but it's dark and quiet. You need to go to the bathroom!	
9. Your best friend from school is sitting by you at lunch. You want her to put some salt on your French fries.	
10. Your dad is sitting next to you while you're having your snack. You're all finished.	

TYPES OF INTERVENTION SESSIONS

The PACT goals and activities are designed to be adaptable to a variety of types of intervention sessions, depending on the clinical setting and including the following:

- Individual-Child Intervention Sessions
- Group-Child Intervention Sessions
- Individual-Partner Intervention Sessions
- Group-Partner Intervention Sessions
- Individual-Dyad Sessions
- Group Child-and-Partner Intervention Sessions

Individual-Child Intervention: Many of the activities may be incorporated in an individual session. Such sessions give the clinician opportunity to describe and demonstrate target behavior(s) and provide the child with intensive practice in using them. However, the activities direct such practice to functional interaction rather than to drill and practice.

Group-Child Intervention Sessions: A number of group activities for children are described in Language Activities, pages 116-118. These activities are flexible, allowing the clinician to elicit different types of behaviors for each individual according to the child's particular goals and levels of performance. In group sessions, children have an opportunity to observe other children modeling augmentative techniques. They function as partners to other children and perhaps develop a better understanding of the partner's role. Group sessions lend themselves to a real conversational atmosphere. However, depending on the size of the group and the rate of message formulation, opportunities for each child to practice target behaviors may be limited.

Individual-Partner Intervention Sessions: In most cases, regular individual partner sessions with the clinician on a long-term basis will not be necessary. Such sessions may be helpful when introducing a new target behavior or when facilitating improved performance on a difficult behavior. For example, when a partner is to begin working on Modeling Use of the Augmentative Technique, an individual session may be helpful for reviewing operation of a technical aid. Similarly, if a partner is having

TABLE 4-4
Conversational Interaction Facilitation Hierarchy

Attend to child and pause.

Example: Provide eye contact and wait expectantly for child to produce a message.

Converse (socialize, offer information, express feelings, tease or pretend, etc.) and then pause.

Example: Child comes in from the playground. Partner says, "I'm reading a good book."

Converse, modeling the child's augmentative-communication technique(s) and then pause.

Example: Partner says as above and points to *good book* on child's communication board.

Express expectation for the the child to formulate a message (attempt to establish a general message area) and then pause.

Example: Partner says, "Tell me about your afternoon."

Suggest possible specific message areas and then pause.

Example: Partner says, "You could tell me about games, your friends, what you want to do tonight."

Suggest possible specific message areas, modeling the augmentative communication technique, and then pause.

Example: Partner says as above and points to *games/ friends,* etc., on the communication board.

Ask a WH question (who, what, where, when, why, and how) and then pause.

Example: Partner says, "Who did you play with?" ("What game did you play?")

Ask a yes/no question and then pause.

Example: Partner says, "Did you play with Adam?" ("Did you swing?" "Do you want to rent a movie?")

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difficulty monitoring pause time or modifying questions, observe these behaviors in an individual session with the partner in a child partner videotape or use roleplay activities to provide intensive practice.

Group-Partner Intervention Sessions: Group intervention sessions for partners provide technical instruction regarding augmentative communication and Priority Communication Behaviors in the following ways:

1. Use of videotaped partner-child interactions may be helpful. For example, each partner is given one of the Priority Communication Behaviors to watch for in the videotape and then reports the observations to the group. Partners may also benefit from feedback from other group members regarding their own partner-child videotape.
2. Roleplaying of child-partner interactions may be used productively in partners' group sessions. The clinician chooses an appropriate interaction or asks each partner to bring a frequently occurring or problematic child-partner communication situation to the group. Roleplay activities allow the partner to practice on a specific target Priority Communication Behavior, such as providing pause time or elaborating child messages, and to receive feedback from other partners and the clinician.
3. In addition, partners may use roleplay activities to practice a general Conversational Interaction Facilitation Hierarchy (see Table 4-4). This hierarchy assists partners in integrating several Priority Communication Behaviors including modifying questions, modeling use of augmentative technique(s), providing pause time, and reinforcing child messages. Partners are typically instructed to begin each interaction at the top of the hierarchy (attending and pausing) and to move down the hierarchy only if the child fails to formulate a message. It is appropriate to deviate from the hierarchy and ask a question when confirmation of the child's message is needed. When the child does produce a message, the partner is encouraged to be responsive and to return to the conversation level near the top of the hierarchy. Instructions to the partner may differ if the child demonstrates limited readiness for spontaneously establishing a topic.

During roleplays, the clinician may initially play the child (using an augmentative technique similar to the child's) with the partner. It may be helpful to switch roles several times. This allows for several activities such as the partner modeling problem behaviors anticipated from the child and the clinician modeling productive and unproductive partner and child behaviors. The players and other group participants may be asked to *freeze* the roleplay to ask a question, provide a prompt, or offer immediate feedback. Then the roleplay continues. It may be productive to subsequently introduce the same situation with the child in the dyad session.

Individual-Dyad Sessions: These sessions offer specific individual practice on target behaviors for both child and partner. Many activities, including those designated in Language Activities, pages 116-118, work well in this setting. When possible, switching partners for a dyad session may be good practice for partners and children. Clinicians must attend to giving not only the child but also the partner specific instructions and feedback regarding target behaviors.

Group Child-and-Partner Intervention Sessions: These sessions may be instructional regarding augmentative communication in general or the Priority Communication Behaviors. Use of commercially available films such as "Talk Is Not a Four-Letter Word" (Blackstone 1986) may be appropriate. The sessions may also take the form of experiential activities offering communication practice opportunities. Such activities may involve field trips, carnivals, special guests, or games.

ADDITIONAL INTERVENTION PROCEDURES

In Chapter 3, emphasis was on the importance of the clinician attending to the adequacy of the child's communication system relative to communication needs. Frequently during interaction facilitation, modifications must be made in the communication system. Most often this involves modifying the components or dimensions of an augmentative technique. It is very common to need to add vocabulary items or interaction facilitators ("I made a mistake" or "It's not on my board") for nonspellers. Slow or laborious transmission techniques may require modification. Occasionally it is necessary to change or add an augmentative technique. Modifications may have a dramatic impact on interaction and should be carefully considered and well-documented. In addition, clinicians are cautioned to make such changes systematically. If several modifications are attempted simultaneously, it may be difficult to determine the impact those changes are having on interaction.

TABLE 4-5
PACT Intervention Plan

Child's Name: John Partner's Name: Mom
Date: 7/15/86

Observations about Interaction:
Mom dominates interaction with lots of questions. John maintains focus well but has many ambiguous vocalizations.

Technique Revisions:
Try chin pointer to facilitate eye contact. Re-mount board/easel so John can see to drive wheelchair.

CHILD GOALS	PARTNER GOALS
1. Increase strategies for mode use	1. Model use of John's Communication board
2. Answer other questions (without ambiguity)	2. Provide pause time
3. Establish topic	3. Modify questions (especially yes/no questions)
Additional Recommendations	**Additional Recommendations**
• Reinforce consistent eye contact to facilitate feedback to partner.	• Encourage Mom to clarify (confirm) John's messages.
• Counsel John re: readiness for technical augmentative technique. Provide him with opportunities to use appropriate technique options.	• Counsel Mom re: John's negative feelings regarding augmentation.

MC / DC
Clinician

INTEGRATION OF COMMUNICATION AND PSYCHOLOGICAL INTERVENTION

When the partners involved in communication intervention are family members, integration of communication goals with psychological intervention is recommended. See Chapter 5.

Case Study

For a discussion of the intervention plan for a sample child-partner dyad, refer to Tables 3-1 and 3-2. Observations made in the assessment phase will be interpreted, and the rationale for choosing appropriate goals for both the child and the partner will be provided.

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As illustrated on their Intervention Plan (Table 4-5), John and his mother were assigned three target goals each. While it may be necessary to limit the target goals to less than three for a particular child or partner, the number of target goals should not exceed three per person at any given time.

In reviewing John's needs on the Interaction Profile Summary Sheet, it was determined that John might be responsive to the goals of (1) answering other questions and (2) establishing a topic. These goals, along with the mode-selection goal, appeared to have the greatest potential to affect John's interactions by increasing his conversational input/control and intelligibility. It seemed appropriate to address these behaviors before considering higher-level goals such as expressing feelings, requesting information, or elaborating a topic.

John's mother demonstrated numerous strengths with only three basic needs. Modeling use of John's augmentative technique would familiarize her with John's communication board and allow her to demonstrate new ways to formulate messages (semantic combining strategies and syntactic structures). In addition, her attention to modifying questions and providing pause time could have a significant impact on the general interaction characteristics in this dyad. Note that the partner behavior of modifying questions was directed specifically at yes/no questions. John's mother should be encouraged to provide more opportunities for John to answer other questions. Question modification and pause time should also complement John's goal of establishing topics. The partner goal of modeling use of John's augmentative technique provides opportunities for his mother to reinforce and encourage John's goal of increasing strategies for mode selection.

A case could be made for choosing a different set of goals for either John or his mother. Since John does have limited ability to request information and to request assistance/object/action, these goals would not be inappropriate. However, as we stated, our objective in choosing John's target goals was to strengthen underlying skills that would be basic for ensuring effective communication interaction development.

Finally, based on the results of the Partner and Child Rating Scale, it is recommended that John and his mother be educated regarding development of readiness for a technical aid and provided opportunities to work with such techniques.

CONCLUSION

The Intervention Guidelines are building blocks for promoting effective augmentative communication interactions. They help guide the clinician in developing strategies for both the child and the partner to develop functional, rewarding communication in day-to-day interactions.

Intervention in augmentative communication, as in any speech/language intervention, requires ongoing assessment. Keeping careful records of child-partner performance toward goals, periodic reassessment using the Interaction Profile, and regular contact via conversation or observation in the natural environment is essential. If a child or partner fails to progress toward a particular goal, it is up to the clinician to determine if that failure is due to the intervention, to the limitations of a particular augmentative technique, or to the physical or cognitive limitations of the child or partner.

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PACT Intervention Plan

Child's Name: _____ **Partner's Name:** _____

Date: _____

Observations about Interaction:

Technique Revisions:

CHILD GOALS

PARTNER GOALS

Additional Recommendations

Additional Recommendations

_____

Clinician

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PACT Goals
Child Behaviors: Functions
Socializes

Long-Term Goal

The child will spontaneously use an appropriate greeting, courtesy, or social comment on 8/10 opportunities in a series of different conversational contexts. Sample target behaviors: *Greetings* ("hi," "bye," etc.); *Courtesies* ("please," "thanks," "sorry," "excuse me," etc.); *Social comments* ("have a good time," "hope you feel better," "good luck," "see ya later," etc.)

Short-Term Goals

The child will:

1. Correctly list and/or demonstrate, on three consecutive trials, 8/10 appropriate responses (greeting, courtesy, or social comment) for given situations.

   Activities

   A. PACT Worksheet: Child Socializes (see page 103)

   B. Discussions with clinician about possible situations. (For example: "What do you say when you see someone first thing in the morning?")

   C. Story Completion (Clinician tells story. Child fills in appropriate greeting, courtesy, social comment, etc.)
   Example:
   One day, Harry the Hounddog was out for a walk. Along came his good friend, Polly Poodle. _____, said Harry, as Polly came closer. But Polly was being a poop. She'd just been to the vet for her shots and wasn't feeling well. She didn't even say hello back. Harry decided to try and cheer her up, so he said _____ as she walked by. And do you know what? Polly turned around and gave Harry a big smile after all. She said _____, Harry, you really cheered me up.

   D. Skits (Clinician or partner(s) perform short skits and "freeze" when response from child is needed. Use situations from PACT Worksheet: Child Socializes, page 103).

2. Provide a greeting, courtesy, or social comment given a prompt by the clinician, on 8/10 trials, in a series of different, structured communication activities.

   Activities

   A. Language Activities (pages 116-118)

   B. Roleplays (pages 119-120)

   C. Script Possibilities (page 120)

3. Spontaneously provide a greeting, courtesy, or social response, on 8/10 trials, in a series of different, structured communication activities.

   Activities

   As in 2 above

4. Provide a greeting, courtesy, or social response, given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously provide a greeting, courtesy, or social response, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 4 above

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PACT Goals
Child Behaviors: Functions
Answers Yes/No Questions

Long-Term Goal

The child will spontaneously demonstrate an intelligible Yes/No (Y/N) response to a question in ≤_____ seconds (individualized for each child), on 8/10 trials, in a series of different conversational contexts.

NOTE: The clinician must attend to the difficulty of questions relative to receptive language abilities of child.

Short-Term Goals

The child will:

1. Spontaneously demonstrate on request, for 8/10 trials, both Y and N signals.

   Activities

   A. Discussion (Discuss with child possible Y/N signals considering child's physical abilities and intelligibility to general public; for example, head nods, eyes up for *yes* and down for *no*, hand signals, etc.) B. Red Light/Green Light (With child, practice Y/N signals with construction-paper traffic light: Green = Y; Red = N).

2. Demonstrate an intelligible Y/N answer, given a prompt ("eyes up" or "use your eyes") or model by the clinician, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. 20 Questions (Child chooses an item/card from a bag. Clinician asks child Y/N questions until clinician guesses item.

   B. Silly Questions (Example: Do dogs fly?)

   C. Getting-to-Know-You Scripts (Partner interviews child using Y/N questions for basic identifying information and to record understood responses.)

3. Demonstrate in ≤_____ seconds an intelligible Y/N answer given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

4. Spontaneously demonstrate in ≤_____ seconds an intelligible Y/N response, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in #3 above

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PACT Goals
Child Behaviors: Functions
Answers Other Questions

Long-Term Goals

The child will spontaneously provide an intelligible response to short-answer questions which cannot be answered by "yes" or "no," on 8/10 trials, in a series of different conversational contexts.

NOTE: The clinician will carefully adapt activities to meet the receptive language, cognitive, and expressive vocabulary capabilities of the child. The clinician will provide *at least* 4 seconds pause time after posing a question.

Short-Term Goals

The child will:

1. Provide an appropriate, intelligible response to short-answer questions, given a prompt or model by the clinician ("Now you need to answer," or "Say _____"), on 8/10 trials, in a series of structured communication activities.

   Activities

   A. Silly Questions (Clinician asks developmentally easy silly questions with specific correct responses and models the correct response in an appropriate mode for the child).

      Examples:

      What says "woof woof?"
      What do we read?
      Where do we sleep?

   B. Famous Person Interview (Clinician and child agree on a famous person such as Superman, Big Bird, or Indiana Jones to be interviewed, then establish four interview questions and answers. Clinician asks questions and child responds following the model of the previously designated answer.)

   C. Quick Quiz (To be prepared around major activities of the day.)

      Examples:

      What color was the clown's costume?
      Who won the balloon pop game?
      What did Jennifer do when she won?

   D. Language Activities (pages 116-118)

2. Spontaneously provide intelligible responses to short-answer questions, on 8/10 trials, in a series of different, structured communication activities.

   Activities

   As in 1 above

3. Provide an intelligible response to short-answer questions given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

4. Spontaneously provide an intelligible response to short-answer questions, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 3 above.

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PACT Goals
Child Behaviors: Functions
Offers Information

Long-Term Goal

The child will spontaneously offer information (unsolicited by partner), on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Offer information, given a prompt or model by the clinician ("Tell him about yesterday," or "You could tell him . . ." demonstrating on board), on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Playing Secret or Telephone (Clinician tells child a secret word or phrase to pass on to another person.)

   B. Feelie Bag (Child feels objects in bag and tells partner about them.)

   C. What's Missing (Clinician places three pictures for child to see, then child closes eyes. Clinician turns one picture face down. Child opens eyes and tells what's missing.)

   D. Story Building (Clinician tells one sentence of story. Child tells next, etc.)

   E. Picture Description

2. Spontaneously offer information, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 1 above

3. Offer information, given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Roleplays (pages 119-120)

   B. Communication Experience Activities (pages 118-119)

   C. Real-Life Situations

4. Spontaneously offer information, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 3 above

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PACT Goals
Child Behaviors: Functions
Requests Assistance, Object, or Action

Long-Term Goal

The child will spontaneously request assistance, object, or action on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Request assistance, object, or action, given a prompt or model by the clinician ("Tell me on your communication board" or "You could tell me like this," demonstrating on the board), on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Craft Activities (Child requests scissors, glue, help, etc.)

   B. Bubbles, battery-operated toys, etc. (Child requests more bubbles, toys.)

   C. Simon Says (Child requests action such as dance or cry from partner or clinician.)

   D. Cooking (Child requests ingredients and actions such as stir.)

   E. Dollhouse (Child requests positions and activities of objects and people.)

2. Spontaneously request assistance, object, or action, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 1 above

3. Request assistance, object, or action given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Roleplays (pages 119-120)

   B. Communication Experience Activities (pages 118-119)

4. Spontaneously request assistance, object, or action, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 3 above

INTERVENTION

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PACT Goals
Child Behavior: Functions
Requests Information

Long-Term Goal

The child will spontaneously indicate a desire for knowledge of the partner, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Request information from partner when provided a prompt or model by clinician, on 8/10 trials, in a series of structured communication activities.

   Activities

   A. Grab Bag (Child pulls object from bag and asks one question about it.)

   B. Nature Walk (Child and clinician stop to look at things of interest. Child requests one piece of information about each thing.)

   C. Spinner (Child spins a spinner with ten topics such as the circus, Santa Claus, a baby, etc., on the spinning board, then requests information about the indicated topic.)

   D. Roleplaying (Meeting someone for the first time: "What's your name?" "How old are you?" or being a TV reporter interviewing a favorite celebrity)

   E. Creative Dramatics (Familiar stories such as "The Little Red Hen" or "The Three Bears" that contain repetitive types of questions)

2. Spontaneously request information from partner, on 8/10 trials, in a series of structured communication activities.

   Activities

   As in 1 above

3. Request information from partner given a prompt or model by clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Scavenger Hunt (Child asks around school or agency for objects.)

   B. Communication Experience Activities (pages 118-119)

   C. Real-Life Situations

4. Spontaneously request information of partner, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 3 above

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PACT Goals
Child Behavior: Functions
Expresses Feelings and Attitudes

Long-Term Goals

The child will spontaneously demonstrate ability to verbally* indicate emotions, physical states, or beliefs, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Spontaneously label different feelings/attitudes when presented with picture or story representation of feelings/attitudes, on 8/10 trials.

   Activities

   A. What makes you feel _____ ? (Clinician shares with child three things that make her or him happy, sad, etc., then asks child to tell three things that make the child happy, sad, etc. Clinician may need to offer general suggestions such as "Can you think of something about school/holidays/friends that makes you happy?")

   B. Name That Feeling (Clinician shows the child ten pictures/situations clearly demonstrating one of the target feelings/attitudes. Child labels all the emotions presented.)

2. Verbally indicate target feelings/attitudes following the clinician's immediate model (using child's communication mode), on 8/10 trials, in a series of structured communication activities.

   Activities

   A. Puppet Play (Clinician demonstrates with a puppet a situation such as puppet losing money. Clinician models what puppet might say about her or his feelings such as "I'm sad," and child imitates.)

   B. What Could You Say If . . . (Based on items identified by child in 1A above, the clinician poses situations such as "What could you say if you missed the bus and got left alone at school?")

   C. Roleplays (pages 119-120)

   D. Script Possibilities (page 120)

   E. Creative Dramatics (Playing a scene from a familiar story such as "Snow White")

3. Spontaneously verbally indicate target feelings/attitudes, given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

4. Spontaneously verbally indicate target feelings/attitudes, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 3 above

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*Verbally in this case means using semantic labels rather than isolated nonverbal referents.

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PACT Goals
Child Behaviors: Functions
Teases or Pretends

Long-Term Goal

The child will spontaneously communicate for the purpose of teasing or pretending, on 8/10 trials, in a series of different, structured communication activities.

Short-Term Goals

The child will:

1. Communicate for the purpose of teasing or pretending when given a prompt or model by the clinician, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. The Tease (Clinician and child choose a person to tease and something specific to verbally tease about. Clinician models verbal teasing as specified, then provides opportunity for child to tease the person as modeled.)

   B. Roleplays (pages 119-120)

   C. Script Possibilities (page 120)

   D. Imagination Game (Child, prompted by clinician, develops an imaginary person, pet, trip, gift, or place, and tells what was imagined.)

2. Spontaneously communicate for the purpose of teasing or pretending, on 8/10 trials, in a series of different structured communication activities.

   Activities As in 1 above

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PACT Goals
Child Behaviors: Mode
Establishes Effective Mode Selection

Long-Term Goal

The child will spontaneously demonstrate an effective mode of communication relative to partner and situation, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Correctly list and/or demonstrate, on three consecutive trials, all available modes of communication.

   Activities

   A. PACT Worksheets (pages 107-109)

   B. Describe It Again and Again! (Child chooses a picture card and describes it using all available modes.)

2. Spontaneously identify an effective mode of communication relative to partner and situation, on 8/10 trials, in discussion activities.

   Activities

   A. Discussions ("If you wanted a drink right now and your mom was standing right beside you, what would be the best way to tell her?")

   B. PACT Worksheets (pages 107-109)

3. Demonstrate an effective mode of communication relative to partner and situation given a prompt or model by the clinician, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Roleplays (pages 119-120)

   B. Creative Dramatics
      1) Puppet roleplay of situation.
      2) Script Possibilities (page 120)

4. Spontaneously demonstrate an effective mode of communication relative to partner and situation, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 3 above

5. Demonstrate an effective mode of communication relative to partner and situation given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

6. Spontaneously demonstrate an effective mode of communication relative to partner and situation, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 5 above

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PACT Goals
Child Behavior: Discourse
Responds to Partner's Communication

Long-Term Goal

The child will spontaneously acknowledge a partner's message, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Correctly list or demonstrate, on three consecutive trials, all available response behaviors to acknowledge partner's message (eye contact, physical response to instruction, facial expressions, topic content responses, etc.).

   Activities

   A. PACT Worksheet (page 110)

   B. Discussions with child and partner about daily situations.

2. Respond to a partner's message given a prompt or model by the clinician ("It's your turn"; "Look at your worksheet and decide what you should do now"), on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Simon Says (partner is Simon)

   B. 20 Questions

   C. Language Activities (pages 116-118)

   D. Roleplays (pages 119-120)

3. Spontaneously respond to a partner's message, on 8/10 trials, in a series of different structured communication situations.

   Activities

   As in 2 above

4. Respond to a partner's message given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously respond to a partner's message, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 4 above

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PACT Goals
Child Behavior: Discourse
Secures Partner's Attention

Long-Term Goal

The child will exhibit an intentional behavior to gain partner's attention, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. List and/or demonstrate, on three consecutive trials, all available behaviors for securing attention.

   Activities

   A. Let's Play Detective (Child is detective and wears special hat and glasses. Clinician asks child to discover/find all available ways to get attention. If child needs assistance, clinician asks questions such as "If I push this buzzer, will Dad be able to hear it if he is in the other room?" or "What if Mom is talking and you need to interrupt so you can use the restroom?" For each discovered/found behavior child receives a footprint with the attention-getting behavior pictured on it.

   B. PACT Worksheet: Child Secures Partner's Attention (page 111)

2. Secure partner's attention, given a prompt or model by the clinician, on 8/10 trials, in a series of different, structured communication activities.

   Activities

   A. Roleplay with role switching. Child pretends to be:
      Mom in a chair next to child
      Teacher across the room
      Stranger in an elevator
      Dad watching TV
      Brother wearing a radio headset

      Clinician models child's most appropriate way to secure attention in those situations. Then switch roles: clinician pretends to be Mom, etc., and child secures attention.

   B. Puppet Play (Child must secure puppet's attention when puppet's head is turned, back is to child, etc.)

   C. Language Activities (pages 116-118)

3. Spontaneously secure partner's attention, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 2 above

4. Secure partner's attention when given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously secure partner's attention, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 4 above

INTERVENTION

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PACT Goals
Child Behavior: Discourse
Establishes Topic

Long-Term Goal

The child will spontaneously introduce at least half* the new ideas/content areas in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Establish a predetermined topic, on 8/10 trials, during each of three consecutive structured communication activities.

   Activities

   A. Playing Secret or Telephone (Clinician tells child a secret word or phrase to pass on to another person.)

   B. Feelie Bag (Child feels object in bag and has to tell partner what it is.)

   C. Simon Says (Child is Simon and must tell players what to do by choosing a card; for example, "Take a giant step.")

   D. What's Missing (Clinician places three pictures for child to see, then child closes eyes. Clinician turns one picture face down. Child opens eyes and tells partner what's missing.)

2. Establish a topic given a verbal prompt or model by the clinician ("I wonder what you did this weekend," or "I wonder what we should do next," or "I like Madonna—tell me about the music you listen to"), on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Language Activities (pages 116-118)

   B. Looking at pictures, books, or catalogs

   C. 20 Questions

   D. Roleplays (pages 119-120)

   E. Script Possibilities (page 120)

3. Spontaneously establish a topic, on 8/10 trials, in a series of different, structured communication activities.

   Activities

   As in 2 above

4. Establish at least half the topics given a prompt or model by the clinician, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously establish at least half the topics in a series of different conversational contexts.

   Activities

   As in 4 above

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*Half was arbitrarily chosen to indicate a desire to strive for symmetry in conversational control.

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PACT Goals
Child Behavior: Discourse
Sustains Topic

Long-Term Goal

The child will spontaneously embellish a topic (self- or partner-established) for three consecutive messages, on 8/10 trials, in a series of conversational contexts.

Short-Term Goals

The child will:

1. Sustain a topic for three consecutive messages given a prompt or model by the clinician, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Grab Bag with Familiar and Unfamiliar Objects (Child draws out object and takes turns discussing it with clinician. Prompt child to comment or ask about object's function, shape, color, etc.)

   B. Who's Who with Familiar and Unfamiliar Characters (Child draws picture of famous character and takes turns discussing it with clinician. Then clinician prompts child to comment or ask about character's appearance and occupation, to express feelings about the character, etc.)

   C. This Is Your Life (Clinician and child each initiate specific topics such as your most embarrassing experience or your favorite meal to be written on cards. Child draws a card and is prompted by clinician to maintain specified topics.)

   D. Roleplays (pages 119-120)

   E. Script Possibilities (page 120)

2. Spontaneously sustain a topic for three consecutive messages, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 1 above

3. Sustain a topic for three consecutive messages given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

4. Spontaneously sustain a topic for three consecutive messages, on 8/10 trials, in series of different conversational contexts.

   Activities

   As in 3 above

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PACT Goals
Child Behavior: Discourse
Recognizes Nonverbal Feedback from Partner about Comprehension

Long-Term Goal

The child will spontaneously identify nonverbal communication from the partner regarding partner's understanding or lack of understanding of the child's message, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Look at partner to observe feedback cues upon completion of each child message, on 8/10 trials, in a series of structured communication activities.

   Activities

   A. Secret (Clinician tells child a "secret." Child formulates the secret for partner and then looks at partner's face.)

   B. Simon Says (Child is Simon giving commands to partner and looking at partner after each command.)

   C. 20 Questions (Partner has picture of an object. Child asks questions and tries to determine what the object is. Child looks at partner after each question is formulated.)

2. Identify when given a prompt by the clinician at least 8/10 partner feedback behaviors (facial expressions, decreased eye contact, change in body position, etc.) as indicative of comprehension or noncomprehension in a series of different, structured communication activities.

   Activities

   A. As above, but after each child utterance, the clinician models a feedback behavior. Child indicates whether the partner did or did not understand the message.

   B. Language Activities (pages 116-118)

   C. Roleplays (pages 119-120)

3. Spontaneously identify at least 8/10 partner feedback behaviors as indicative of comprehension or noncomprehension in a series of different, structured communication activities.

   Activities

   As in 2 above

4. Identify when given a prompt from clinician, 8/10 partner feedback behaviors as indicative of comprehension or noncomprehension in a series of different conversational contexts. (Child must look at partner after each utterance. If child judges that partner comprehends, child continues. If child judges that partner does not comprehend, child signals "Do you understand?")

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously identify 8/10 partner feedback behaviors as indicative of comprehension/noncomprehension in a series of different conversational contexts.

   Activities

   As in 4 above

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PACT Goals
Child Behavior: Discourse
Provides Feedback to Partner

Long-Term Goal

The child will spontaneously demonstrate communication to partner regarding (1) the child's understanding/nonunderstanding of the partner ("Yes, I understand" or "I don't understand"), (2) the accuracy/inaccuracy of the message produced by the child ("I made a mistake"), and (3) the accuracy/inaccuracy of the partner's interpretation of the child's message ("Right" or "That's not what I meant"), on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Correctly list and/or demonstrate, on three consecutive trials, the most reliable signals for indicating:
   (a) understanding of partner's message (*Yes* head nod, thumbs-up hand gesture, saying "yeah," pointing to symbol for "I understand," etc.)
   (b) **non**understanding of partner's message (puzzled facial expression, shrugging shoulders, saying/pointing to symbol for "I don't understand," etc.)
   (c) completion of an accurate message such as looking at partner for response
   (d) completion of an **in**accurate message such as vocalizing "Oh, oh" or "Oops," pointing to symbol for "I made a mistake" or "let me start over," etc.)
   (e) partner's correct interpretation of child's message (nodding *yes*, saying "Yeah," pointing to symbol for *right*, etc.)
   (f) partner's **in**correct interpretation of child's message (shaking head *no*, saying "Uh, uh," pointing to symbol for *That's not what I meant*, etc.)

   Activities

   A. Discussions (Clinician and child discuss signaling in the above situations using specific examples that might occur in the child's natural environment.)
   B. PACT Worksheet: Child Provides Feedback to Partner (page 112)

2. Demonstrate use of signals designated in 1 above given a prompt or model by the clinician, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Sense or Nonsense? (Clinician produces correct sentences within child's language abilities such as "The cat drinks the milk" and nonsense sentences such as "The drink cat the milks," or "The cat drinks the dubada." After each sentence, child produces a signal for understanding or nonunderstanding.)
   B. Picture Description or Grab Bag (Child has a picture/object stimulus that clinician cannot see. Child makes up a sentence and then signals regarding the accuracy/inaccuracy of the transmitted message.)
   C. Secret and Simon Says (Child is given verbally or with picture cards, a specific message to relay. Partner correctly and incorrectly interprets message and child signals accordingly.)
   D. Language Activities (pages 116-118)
   E. Roleplays (pages 119-120)
   F. Script Possibilities (page 120)

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3. Spontaneously demonstrate use of signals designated in 1 above, on 8/10 trials, in a series of different, structured communication activities.

Activities
As in 2 above

4. Demonstrate use of the signals designated in 1 above, given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

Activities
A. Communication Experience Activities (pages 118-119)
B. Real-Life Situations

5. Spontaneously demonstrate use of signals designated in 1 above on 8/10 trials, in a series of different conversational contexts.

Activities
As in 4 above

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PACT Goals
Child Behavior: Discourse
Repairs Communication Breakdown

Prerequisite Behaviors

Recognizes feedback from partner about comprehension (see goal)

Provides feedback to partner (see goal)

Long-Term Goal

The child will spontaneously salvage own or partner's misunderstood or inaccurate messages, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The child will:

1. Correctly list or demonstrate, on three consecutive trials, all available repair strategies.

   Activities

   A. Discussions (Clinician and child discuss various potential breakdowns and possible repair strategies: repeat; revise such as change mode, alter transmission rate, or change vocabulary/syntax; elaborate by providing additional information; question, request assistance, etc.)

   B. PACT Worksheet: Child Repairs Communication Breakdown (page 113)

2. Repair communication breakdowns given a prompt or model by the clinician, on 8/10 trials, in a series of different, structured communication activities.

   Activities

   A. This Is Your Life (Child draws a topic card such as "The most embarrassing experience of your life" and tells about the event, identifying and repairing breakdowns that occur given prompts from the clinician regarding repetition or strategies for revision.)

   B. Language Activities (pages 116-118)

   C. Roleplays (pages 119-120)

   D. Script Possibilities (page 120)

3. Spontaneously repair communication breakdowns, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 2 above

4. Repair communication breakdowns given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously repair communication breakdowns, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 4 above

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PACT Goals
Partner Behavior: Functions
Varies Communication Functions

Long-Term Goal

The partner will spontaneously and appropriately vary communication functions, on 8/10 trials, in a series of different conversational contexts. Functions include, but are not limited to: socializes, answers yes/no questions, answers other questions, offers information, requests assistance/object/action, requests information, expresses feelings/attitudes, and teases/pretends.

Short-Term Goals

The partner will:

1. Appropriately vary communication functions when provided a prompt or model from the clinician, on 8/10 trials, in a series of different, structured communication activities.

   Activities

   A. Language Activities (pages 116-118)

   B. Roleplays (pages 119-120) Examples: Child and partner roleplay typical daily activities such as child returning home from school; mother preparing dinner; getting ready for bed. Prompt child to initiate conversation such as "Can we make pizza?" Then model ways to vary functions.

      Socialize: "Okay, thanks for suggesting my favorite food!"

      Offer Information: "Okay, let's see. I guess we'll need to make the dough first and give it time to rise."

      Request Assistance/Object/Action: "Okay. Will you help me stir the dough?"

      Request Information: "What should we put on it?"

      Express Feelings/Attitudes: "Okay. That sounds great to me."

      Tease/Pretend: "Okay, but you know how much I hate pizza!"

      Answers Y/N Questions: In response to questions from child.

      Answers Other Questions: In response to questions from child.

2. Spontaneously and appropriately vary communication functions, on 8/10 trials, in a series of structured communication activities.

   Activities

   As in 1 above

3. Appropriately vary communication functions when provided a prompt or model from the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

4. Spontaneously and appropriately vary communication functions, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 3 above

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PACT Goals
Partner Behavior: Mode
Models Use of Augmentative Communication Technique(s)

Long-Term Goal

The partner will spontaneously use the child's augmentative technique(s) (as in modeling partner's own utterance, modeling child's utterance, or expanding child's utterance), on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The partner will:

1. Model use of the child's augmentative technique(s) given a prompt or model by the clinician, on 8/10 trials, in a series of structured communication activities.

   Activities

   A. Picture Description (Partner is given a picture to describe.)

   B. Topic Cards (Partner is given a topic card such as a baseball card or rock-star card and makes a comment or asks a question about the topic.)

   C. Roleplay/Script (Partner may be asked to roleplay child in high-occurrence natural-environment situations.)

   D. Language Activities (pages 116-118)

2. Spontaneously model use of the child's augmentative technique(s), on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 1 above (but turn-taking)

3. Model use of the child's augmentative technique(s) given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

4. Spontaneously model use of the child's augmentative technique(s), on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 3 above

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PACT Goals
Partner Behavior: Discourse
Positions Self Appropriately

Long-Term Goal

The partner will situate self so as to have adequate access to child's communication, on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The partner will:

1. List or demonstrate, on three consecutive trials, the functional position(s) for receiving each of the child's modes of communication.

   Activities

   A. Individualized Worksheets (Partner lists all the modes of communication used by the child and then lists one or more functional positions for receiving each mode.)

      For example:
      Mode: Eye Gaze
      Position: Sitting or standing directly in front of child
      Mode: Voice synthesizer
      Position: Anywhere in same room, preferably with access to eye contact

   B. Discussions with clinician and child (regarding child position preferences)

2. Demonstrate previously determined positions in relation to child's communication modes and situation given a prompt or model by the clinician, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Individualized Worksheets (Partner is given a communication situation and must list functional communication positions.)

      For example:
      Situation: Child is in the family room vocalizing loudly and pointing to the communication board. Brother is yelling. Partner is just outside the door of the family room.
      Position: Stand or sit beside child

   B. Language Activities (pages 116-118)

3. Spontaneously demonstrate previously determined positions in relation to child's communication modes and situation, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 2 above

4. Demonstrate previously determined positions in relation to child's communication modes and situations given a prompt or model by clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously demonstrate previously determined positions in relation to child communication modes and situations, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 4 above

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PACT Goals
Partner Behavior: Discourse
Provides Pause Time

Long-Term Goal

The partner will be silent for at least 4 seconds after each of his or her utterances, on 8/10 consecutive utterances, in each of a series of different conversational contexts.

Short-Term Goals

The partner will:

1. Demonstrate greater than or equal to a 4-second pause after each of his or her utterances, given a visual or auditory prompt such as counting, head nods, finger movements, pencil taps, or foot taps, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Discussion regarding picture stimuli.

   B. Discussion during a language activity such as making a craft, cooking, face painting, dressing up, building a fort, etc. (pages 116-118).

2. Spontaneously demonstrate greater than or equal to a 4-second pause after each of his or her utterances, on 8/10 consecutive utterances, in each of a series of structured communication activities.

   Activities

   As in 1 above (plus partner may review videotape and analyze own performance)

3. Demonstrate greater than or equal to a 4-second pause after each of his or her utterances given a prompt or model by the clinician or self, on 8/10 consecutive utterances, in each of a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

4. Spontaneously demonstrate greater than or equal to a 4-second pause after each of his or her utterances, on 8/10 consecutive utterances, in each of a series of different conversational contexts.

   Activities

   As in 3 above

INTERVENTION

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PACT Goals
Partner Behavior: Discourse
Modifies Questions

Long-Term Goals

Partner will ask the child no more than three direct questions in each of a series of different conversational contexts. Other yes/no and short-answer questions will be revised as statements, comments, or open-ended questions that pose opportunity for more complex child messages. This does not include confirmations or requests for clarification.

Short-Term Goals

The partner will:

1. Accurately record at least 8/10 questions asked of child by observing a videotaped interaction.

   Activities Videoanalysis of partner and child or of another dyad or observing another dyad in a real-life situation

2. Identify in writing two or three ways to modify each item on a list of frequently asked questions.

   Activities
   A. Use questions frequently asked in videotaped interaction from 1 above.
   B. PACT Worksheet: Partner Modifies Questions (page 114)

3. Ask no more than three direct questions when provided auditory and visual reminders from clinician in a series of structured communication activities.

   Activities
   A. Gong Show (Partner gets "gonged" for asking more than three questions. Could prompt partner to forget every once in a while and get gonged for the child's amusement.)
   B. Roleplays (pages 119-120). (Partner and child have a general storyline to follow—not a script. The clinician taps or marks each of the partner's questions. Partner revises questions.)

4. Spontaneously limit questions to no more than three during a series of structured communication activities.

   Activities
   As in 3 above

5. Limit questions to no more than three given an auditory or visual prompt by the clinician, during a series of different conversational contexts.

   Activities
   A. Language Experience Activities (pages 116-118)
   B. Real-Life Situations

6. Spontaneously limit questions to no more than three during a series of different conversational contexts.

   Activities
   As in 5 above

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PACT Goals
Partner Behavior: Discourse
Reinforces Child Messages

Long-Term Goal

The partner will respond to or acknowledge at least 8/10 of child's messages in each of a series of different conversational contexts.

Short-Term Goals

The partner will:

1. Reinforce/acknowledge child's messages (any mode) given a prompt or model by the clinician, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Big-Piece Puzzle (Child describes one specific piece of a simple jigsaw puzzle then partner places it in puzzle.)

   B. Big Pictures (Child is presented with "busy" picture to talk about.)

   C. Spinner (Child spins a topic spinner and communicates about the topic the spinner stops at.)

   D. Undercover Operations (Partner plays detective for object child has hidden in room. Child directs partner to object with a variety of modes as cued by clinician, who also provides prompts to partner such as "Did you see what he did with his eyes just then?" Or "This time, he's going to point to his clue.")

   E. Language Activities (pages 116-118).

2. Spontaneously reinforce/acknowledge child's messages (any mode), on 8/10 trials, in a series of different, structured communication activities.

   Activities

   As in 1 above

3. Reinforce/acknowledge child's messages (any mode), given a prompt or reminder from clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life situations

4. Spontaneously reinforce/acknowledge child's messages (any mode), on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 3 above

NOTE: Videotaping the activities in 3 or 4 above will allow the partner to review the child's initiations after the situation.

INTERVENTION

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PACT Goals
Partner Behavior: Discourse
Confirms Child Messages

Long-Term Goal

The partner will verbally clarify the child's ambiguous and incomplete messages followed by a pause of at least 4 seconds (giving the child opportunity to accept/reject the confirmation), on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The partner will:

1. Identify 8/10 repetition/confirmation opportunities during a videotaped communication interaction with the child.

   Activities

   A. Videotape analysis of another dyad.

   B. Videotape analysis (Partner will view videotaped communication situations of self with child and clinician with child and count repetitions/confirmations. When videotaping is unavailable, observation of another dyad or of clinician and child in real-life conversation may be substituted.)

2. Confirm the child's ambiguous and incomplete messages given a prompt or model by the clinician, on 8/10 trials, in a series of different, structured communication activities.

   Activities

   A. Roleplays (pages 119-120)

   B. Language Activities (pages 116-118)

   C. Story Building (Partner and child take turns formulating sentences to make a story.)

3. Spontaneously confirm the child's ambiguous or incomplete messages, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 2 above

4. Confirm the child's ambiguous or incomplete messages given a prompt or model by the clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously confirm the child's ambiguous or incomplete messages, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 4 above

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PACT Goals
Partner Behavior: Discourse
Elaborates Child Messages

Long-Term Goal

The partner will spontaneously follow the child's lead in choosing ideas or content areas for conversation by offering further information, relating events, expressing feelings or attitudes, teasing, etc., on 8/10 trials, in a series of different conversational contexts.

Short-Term Goals

The partner will:

1. Provide examples of ways to expand child's messages, on 8/10 trials, during each of three structured activities with the clinician.

   Activities

   A. PACT Worksheet: Partner Elaborates Child's Message (page 115). (Partner is given examples of child's message, then provides an appropriate elaborated response.)

      Examples:

Child:	Points to "I want a hamburger."
Partner:	"Another hamburger? That makes at least ten hamburgers this week!"
Partner:	"What do you want to do today?"
Child:	Points to "Outside."
Partner:	"Gosh, I don't know what we could do out there." or "Maybe we should ask someone to go with us."

   B. Videotape Analysis (View portion of tape with partner to identify where elaboration did or did not occur, and if not, to identify how to change or correct interaction.)

2. Expand/elaborate on the child's message when given a prompt or model by the clinician, on 8/10 trials, in a series of different structured communication activities.

   Activities

   A. Picture Descriptions (Child names or describes picture; partner expands or elaborates on description.)

      Example:

Child:	"Dog"
Partner:	"Yes, it's a big, yellow dog." or "I guess you wouldn't want a dog since we already have a cat."

   B. Language Activities (pages 116-118)

3. Spontaneously expand/elaborate on the child's messages, on 8/10 trials, in a series of different structured communication activities.

   Activities

   As in 2 above

4. Expand/elaborate on child's messages given a prompt or model by clinician, on 8/10 trials, in a series of different conversational contexts.

   Activities

   A. Communication Experience Activities (pages 118-119)

   B. Real-Life Situations

5. Spontaneously expand/elaborate on child's messages, on 8/10 trials, in a series of different conversational contexts.

   Activities

   As in 4 above

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PACT Worksheet
Child Socializes

Instructions:
The clinician reads the situations/responses aloud. The child chooses the best of the three answers.

1. A stranger just opened the door for you and your mom. The best thing to say/indicate is:
   (a) How are you?
   (b) Thank you.
   (c) Excuse me.

2. A new babysitter is feeding the kids dinner at home. You'd love to have more potatoes. You indicate that on your board and she gets you more potatoes. What should you say/indicate?
   (a) These are great potatoes!
   (b) Thanks a lot.
   (c) Potatoes are good for you.

3. You are telling a friend of your mom's something on your communication board. You lose control of one arm and hit her in the chin. What should you do?
   (a) Laugh and say nothing.
   (b) Indicate/say "I'm sorry."
   (c) Stop communicating with her.

4. You are working with some classmates on a group project. You burp. What should you say/indicate?
   (a) Excuse me.
   (b) Please.
   (c) Bye.

5. Mom and Dad are busily getting ready for an evening out. They're just about ready to leave and the older sibling tells them to have a good time. What should you do?
   (a) Wave or say goodbye.
   (b) Ignore them.
   (c) Tell them what you did in school that day.

6. You're at a restaurant and you've just told your mom what you want to order. She tells the counter person, pays for your food, and then gets you all set up to enjoy a great lunch. What should you do?
   (a) Say/indicate "Thank you."
   (b) Do/say nothing.
   (c) Say/indicate "I'm hungry."

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7. You're eating lunch with your best friend from school. She finishes, puts all of her things in her lunchbox, and starts to go back to class. What should you do?
   (a) Say/indicate "Have a nice day."
   (b) Do/say nothing.
   (c) Tell her about what your class has been doing all morning.

8. Your best friend has been sneezing and coughing all morning. The teacher gives him a pass to the nurse's office. When he returns to class, he picks up his things to go home. What should you do?
   (a) Tell him about the book you just finished.
   (b) Tell him "Feel good tonight."
   (c) Say/indicate "Bye."

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PACT Worksheet
Child Answers Yes/No Questions

Child: _____ Clinician: _____

Instructions:
The clinician says, "I'm going to ask you some silly questions. Tell me if the answer is yes or no." Only those questions appropriate for the child should be asked. Revise or add to the list as necessary.

Question	Y/N
1. Can you wear sunglasses at night?	_____
2. Can you take a nap during the day?	_____
3. Can you drink a sandwich?	_____
4. Can you eat ice cream with a fork?	_____
5. Can you ride an armadillo?	_____
6. Can a clown see you giggle?	_____
7. Can a polar bear do your math homework?	_____
8. Should a cat eat popcorn?	_____
9. Does Christmas come before Valentine's Day?	_____
10. Do you chew soft drinks?	_____
11. Does it rain every day?	_____
12. If it is Wednesday, is it the weekend?	_____
13. If you were a rock star, would you be famous?	_____
14. Does a bunny hop?	_____
15. Are you older than your mom?	_____
16. Do bears whistle?	_____
17. Do cartoons make you laugh?	_____
18. Does Superman wear a cape?	_____
19. Can you read a book in the dark?	_____
20. Do all girls have blond hair?	_____

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PACT Worksheet
Child Answers Other Questions

Child: _____ Clinician: _____

Instructions:
The clinician says, "I'm going to ask you a question, and you tell/show me the answer." Only those questions appropriate for the child should be asked.

Question	Answer
1. What says "Woof woof"?	_____
2. What do we read?	_____
3. Where do we sleep?	_____
4. What do we bite with?	_____
5. What do children do with toys?	_____
6. What makes ice melt?	_____
7. Who makes people laugh at the circus?	_____
8. Who drives a car?	_____
9. Who takes care of you when you're sick?	_____
10. Where does Mom/Dad go every day?	_____
11. Where do you go to learn new things?	_____
12. Where do you go for fun?	_____
13. What color means *stop*?"	_____
14. What says "Meow"?	_____
15. Why do we sleep?	_____
16. What comes after six?	_____
17. What letter comes after C?	_____
18. Why do we watch TV?	_____
19. Who teaches children to read?	_____
20. Where do you go to buy food?	_____
21. Where does your dog/cat sleep?	_____
22. When is your birthday?	_____
23. Where is your TV?	_____
24. When do you brush your teeth?	_____
25. When do we decorate a tree and give each other presents?	_____

INTERVENTION

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PACT Worksheet
Child Establishes Effective Mode (I)

Child: _____ Clinician: _____

Instructions:
The clinician says, "I need to know all the different ways you can let me know what you want or how you feel. I'll point to one of the pictures below and give you an example of how I could use that way to talk to you. Then you let me know if you're an old pro at using that way to communicate by showing me how you can do it. Ready?"

Eyes

Vocalizing

Computer/syn. speech

Facial Expression

Talking

Writing

Pointing

Using Board

Other _____

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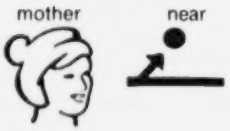
PACT Worksheet
Child Establishes Effective Mode (II)

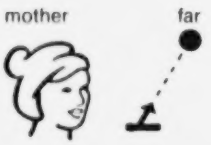
Child:_____ Clinician: _____

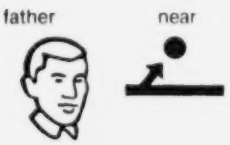
Instructions:
The child completes the following sentence using the pictogram on the left and then choosing the appropriate mode on the right. Draw a line from the pictogram to the chosen mode to provide reinforcement.

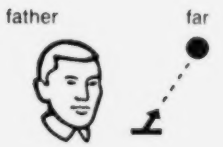
If you _____, what would be the best way to tell:
(Fill in the blank with child-appropriate choices such as if you need a drink, feel angry, want help, etc.)

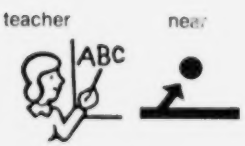
Example: If you need a drink, what is the best way to tell your mom if she is near you?

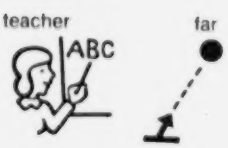


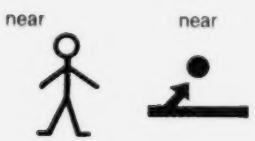


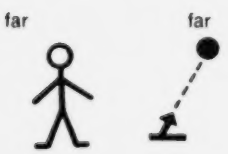


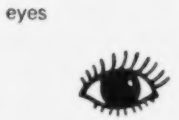


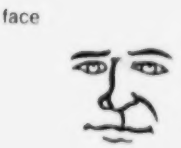


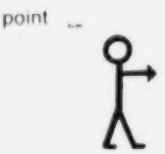


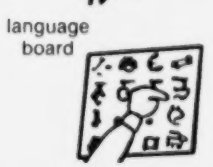


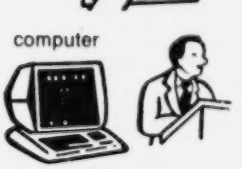












INTERVENTION

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PACT Worksheet
Child Establishes Effective Mode (III)

Child: _____ Clinician: _____

Instructions:
The clinician says, "Let's see if you can demonstrate all of your communication modes and if I can guess the one you're using. We'll do this with *yes* and *no* questions. Try to use a different way for each question." If necessary, the child may use Mode Worksheet I or II as a guide.

Sample Questions	**Mode Demonstrated**
Are you a boy/girl?	_____
Do you have purple hair?	_____
Do flowers need water to live?	_____
Do you live in Texas?	_____
Do you like ice cream?	_____
Are you related to Superman?	_____
Do cats fly?	_____
Do dogs swim?	_____
Do you like scary movies?	_____
Do you sleep in a bed?	_____
Do boys like girls?	_____
Did your mom/dad come with you today?	_____
Is it raining outside?	_____
Others:	_____
	_____

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PACT Worksheet
Child Responds to Partner's Communication

Child: _____ Clinician: _____

Use PACT Worksheet Establishes Effective Mode (II), page 108.

Instructions:
I'm going to ask you do some things for me and I'm going to tell you how I want you to do them. Ready?

1. Make a face that shows me you understand what I say.
2. Make a face that shows me you don't understand what I say.
3. Show me how you could tell me with your eyes that you do/don't understand.
4. Show me with your head/arm/leg (as appropriate) that you do/don't understand.
5. Show me with your voice that you do/don't understand. Now, let's just talk for a few minutes, okay?

   [The clinician intersperses statements such as the following within the context of a spontaneous conversation. Note whether the child responds to specific comments and which modes are used to respond (eye gaze, facial expression, gesture, vocalization, speech, sign, or augmentative technique.]

6. Mickey Mouse is fat.
7. Ice cream is yucky.
8. Santa is a nice man.
9. My favorite food/toy/color/TV show is _____ . Do you have a favorite?
10. I guess math is pretty exciting/boring.
11. I want to go on vacation.
12. Do you like to swim?

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PACT Worksheet
Child Secures Partner's Attention
What Are Your Attention-Grabbers?

Child: _____ Clinician: _____

Instructions:
The child matches the right "attention-grabber" (there may be more than one!) to the situation. If necessary, the clinician photocopies grabbers and attaches them to a communication board or eye-gaze board for easier pointing/selection.

Situation	Child's Choice
1. You're in the backseat of the car on a trip and you need to go to the bathroom.	
2. You're at home in bed and you need a drink. Mom is in the kitchen.	
3. You're in the den with Dad. He's watching TV and you need to be moved so you can see too.	
4. You're sitting next to Mom at a restaurant. You're ready for another drink of cola.	
5. Mom is giving you a bath. You need to tell her you'd like to wash your hair.	
6. You're at school. You've finished your assignment and need another one. Your teacher is at her desk.	
7. You want to play cards with your sister/ brother/friend who is in front of you watching TV.	
8. You're in a movie theater. Mom is sitting next to you, but it's dark and quiet. You need to go to the bathroom!	
9. Your best friend from school is sitting by you at lunch. You want him to put some salt on your French fries.	
10. Your dad is sitting next to you while you're having your snack. You're all finished.	

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PACT Worksheet
Child Provides Feedback to Partner

Child: _____ Clinician: _____

Instructions:
The clinician says, "I'm going to read/tell you something and then ask you to do something for me. For example, if I ask you to tell me *yes*, you would _____ (appropriate mode for child).

Instruction	Record Child's Feedback as **Successful/Unsuccessful**
1. Show me that you understand what to do.	_____
2. If I said, "Today we're going to eat chalily nobbles for lunch," show me that you did not understand.	_____
3. If I said, "The boy rode his shamozzle home," show me that you did not understand.	_____
4. I want you to tell me what color your shirt is and then let me know when you're finished.	_____
5. I want you to show me all the names of people on your board and then let me know when you're finished.	_____
6. I want you to tell me your two favorite foods/ activities and then let me know when you're finished.	_____
7. Let's pretend I asked you your favorite color and you accidentally showed me the wrong one. How would you tell me you had made a mistake?	_____
8. Let's pretend you want to start over with a message you're telling Mom. How would you tell her you messed up and were starting over.	_____
9. If you told me a secret and I guessed it right, how would you tell me that I got it right?	_____
10. This time, you think of something to tell me. You could tell me something funny or something you did this morning before you came here today. I'll tell you what I think you are saying and then you let me know if I'm right or wrong. *Clinician:* Repeat 10 several times, guessing right some of the time and purposefully guessing wrong some of the time.	_____

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PACT Worksheet
Child Repairs Communication Breakdown

Child: _____ Clinician: _____

Instructions:
The clinician says, "I'm going to tell you a problem and you tell me the best way to fix the problem." The clinician must attend to the child's choice of mode and to any necessary revision strategies.

1. Your new babysitter asked you if you were ready for bed. You looked up to indicate *yes,* but she didn't understand. What should you do?

2. Let's pretend you're in your room with the window open and you are cold. Dad comes in and you point to *I cold.* He gets you a blanket but doesn't realize the window is open. What should you do?

3. What could you do if you pointed to a book on the shelf but your teacher gave you the wrong one?

4. You said "I want French fries lunch" but your teacher only saw you point to lunch. What should you do?

5. Valentine's Day is getting closer. You want to get a card for your favorite girlfriend at school. You tell Mom on your board *love . . . Jennifer,* but she just says, "Yes, I know you're crazy about Jennifer." What could you do to make Mom understand you want to buy Jennifer a card?

6. You're at the store with Dad buying new tennis shoes. You've told him that you want black shoes this time, but you see that the store has some black high-top tennis shoes you would love to have. You point to *tall* but he doesn't understand. How could you tell Dad you want high-tops?

7. You're at the fair with your class. The teacher asks you where the group will go first. You point to *car,* meaning the building with all new cars. Your teacher thinks you mean the bumper cars on the midway. Whoa! You don't like that ride at all. How can you make her understand?

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PACT Worksheet
Partner Modifies Questions

Child: _____ Clinician: _____

Instructions:
The partner provides two or three ways to turn each of these yes/no or short-answer questions into statements or comments that would encourage a longer child response.

Example:

Did you have a good day at school?

1. Tell me about your day.
2. I see you got an A on this paper.
3. I noticed your regular teacher was absent today.

Question	Variations
1. Are you tired?	_____
	_____
2. Are you happy?	_____
	_____
3. Was your friend crying?	_____
	_____
4. What did you have for lunch?	_____
	_____
5. Did you read a story today at school?	_____
	_____
6. Did you have speech therapy today?	_____
	_____
7. What's today?	_____
	_____
8. Is your doll ready for bed?	_____
	_____
9. Who did we visit yesterday?	_____
	_____
10. What color is that?	_____
	_____

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PACT Worksheet
Partner Elaborates Child's Message

Child: _____ Clinician: _____

Instructions:
The partner gives one or two examples of how each of the following child's messages could be expanded. Further information can be offered, an event related, your feelings/attitudes expressed, teasing and pretending can occur, etc.

Child's Message	**Elaboration(s)**
I want hamburger.	_____
Daddy cook.	_____
Dress blue.	_____
Mommy reading.	_____
I hot.	_____ _____
I find it.	_____
Wheelchair stuck.	_____
Swimming tomorrow.	_____
It rain.	_____
I throw.	_____
Pizza cold.	_____
Girl swing outside.	_____
Dog/cat hungry eat.	_____
My hair dirty.	_____
I TV Sesame Street.	_____
I like song.	_____
I see dog.	_____

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PACT LANGUAGE ACTIVITIES

Dyad Activities

1. **Me Book**
   The child and partner prepare a scrapbook for the child. The introductory pages contain an "All About Me" section with unfinished statements such as:

   I'm scared of _____ because _____.

   I get excited about _____ because/when _____.

   I love _____ because _____.

   I just hate _____ because _____.

   My biggest dream/fantasy is _____.

   I daydream about _____.

   The funniest thing/person I know is _____.

   I really get depressed when _____.

   My favorite food is _____.

   My favorite drink is _____.

   My favorite friend is _____

   Other items can include pictures, ticket stubs, etc., of PACT or of school, descriptions of events that happen during the week, names and addresses of friends at school or at therapy, etc. This activity is good for the child goals of answering other questions (not yes/no questions), offering information, and establishing a topic. It is also a good facilitator for the partner goals of elaborating child messages and confirming child messages or for modeling use of the communication board (the partner can show his or her own answer to a specific question).

2. **Book Review Time**
   The child is given a book to take home at night to read with the partner. The next morning, the child can tell the story to the clinician or another child.

3. **PACT Collage**
   The child and partner create a PACT collage on a large sheet of paper that is hung on a wall. During training, they add to the collage with pictures from magazines, souvenirs such as napkins and buttons from field trips, photographs, and things made during craft activities, etc. The child is encouraged to initiate activity relating to the collage (request assistance/object/action) with the partner assisting.

4. **Who Am I?**
   The child asks the partner yes/no questions to find out who or what is pinned to child's back (cartoon character/animal/famous person). The clinician is the guide/interpreter. The roles may be reversed for a child who needs to work on providing consistent yes/no responses.

5. **Sculpture**
   The child and partner design and build a sculpture with wood scraps and glue. The partner assists with questions such as "What do you need next?" "Does this go on the bottom or the top?" etc. A sibling or peer may be involved in turn-taking with building or painting the finished product.

6. **Design a Catalog**
   The child and partner go through magazines, picture books, catalogs, etc., to find items to include in "The Greatest Personal Catalog Ever." The child and partner decide on categories to include (clothes, electronics, toys, furniture, food, etc.). The child indicates items to include and where they belong in the catalog. The child can also provide descriptions for the items and a price. Siblings/peers may participate by taking turns with the child selecting items for the catalog.

7. **PACT News**
   This "broadcast" activity can be for a group, for the dyad, or for the child and clinician. It would include one-on-one personal profiles, interviews, or local news items.

8. **Design a Creature from Outer Space**
   The partner queries the child about what this creature looks like, how it got here, what it likes to eat, where it sleeps, what it will do on earth, how it will get back, etc. The partner or a sibling may draw as the child dictates, or the creature may be created out of scraps, buttons, pieces of wire, crayons, etc. Answers to the questions can be written by the partner or sibling in a story format.

9. **Board Games**
   Playing commercially available, age-appropriate board games may facilitate various PACT Priority Communication Behaviors.

10. **Paper-Bag Animal Puppet**
    The partner creates an animal puppet from a paper bag according to the child's directions. The child selects the colors, materials, and shapes and determines the steps necessary for construction.

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11. **Color Bingo**
Use a Bingo card that has colors in place of the **B I N G O** columns and numbers or other developmentally appropriate symbols underneath on the board. The child is the caller for the other player(s) (partner, sibling, or clinician.)

12. **Secret Message**
Fold an 8-inch square of paper to make four-leaf secret notes (like we all used to pass around in junior high). Label the four squares on top with different colors or other developmentally appropriate symbols. The partner holds the paper and the child selects one of the four squares. The partner opens the paper to reveal two more choices underneath (also labeled with numbers, colors, etc.). The child selects one of the two choices. The partner then lifts up the selected fold to reveal a secret message. The message may be a funny, silly, or personal question for the child to answer or a yes/no question that the partner must modify to a leading comment or non-yes/no question. The secret message could also be directions for the partner or child to follow.

13. **"Magnetic" Vinyl Forms**
The child directs placement of the forms by telling the partner which object or item of clothing goes in what room or on what person. This works especially well with sets that include two or more of the same item (dresses, chairs, hats) that must be differentiated by another variable such as color or size.

14. **Models of Me and My Room**
The child directs the partner in making a construction paper model or drawing of the child, a sibling, and the child's room. The child decides what clothes, furniture, pets, toys, colors, etc., should be included.

Individual Therapy Activities

Most of the dyad activities described previously may be adapted to child/clinician activities. The following are additional suggestions:

1. **Autograph Book**
The child directs construction of an autograph book. The clinician then instructs the child to do the following:
   (a) Ask PACT friends for their autographs.
   (b) Ask each friend a question such as "What do you like to do in the summer?" or "Tell me your pet's name."
   (c) Say "please" and "thank you for signing the book."

2. **Paper Plate Clowns**
The child directs construction of a clown face made from a paper plate. The child chooses the colors and shapes (triangles for eyes, circle for nose, etc.) and tells the clinician what to do next.

3. **Construction Paper TV**
The child directs construction of a paper TV. Then the child discusses a favorite TV show, naming characters, describing the setting or story line, and answering questions.

4. **Funny Lib**
The child fills in the blanks of a story to make it funny or silly.

5. **Dress Me Up**
The child directs the clinician in dressing up or dressing in a silly outfit. The child tells the clinician which item to put on, where to put it, etc. The activity can be reversed, with the clinician appearing with shoes on her hands, a hat on her feet, a shirt around her waist, etc., and the child telling how to correct the mistakes.

6. **Butterfly Collage or Kite**
The child directs the clinician in selecting colors, shapes, and general design for a tissue-paper butterfly collage or kite.

Group Activities

1. **Make a TV Show**
The materials include a cardboard cutout of a TV set/screen and a roll of white shelf paper. The partners (or clinician) interview children for close-up reports on PACT activities and ask the children for weather information, funny events of the day, etc. The partners write a news report from that information. With the children, the partners design graphics (words, cartoons, pictures) and paste them on the shelf paper. The graphics may also be colored or drawn right on the paper. The clinician, a partner, or a child with a voice output system reads the news report while someone rolls the paper down through the cardboard TV. If a videorecorder is available, the news may be read while the children hold up poster-size graphics for illustrations.

2. **Club Day**
The child chooses a club to be a member of for the afternoon. The group divides into the selected clubs, which may include music, auto, crafts, outdoor, cooking, celebrity look-alikes,

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etc. Each club meets, elects a president for the day, and makes a project to present to the rest of the group.

3. **Thank-You Notes**
   The children design the stationery, providing wording with the help of the partners. The siblings/peers can write the notes, which are then sent to people and organizations involved with therapy and school activities.

4. **Yucky Recipe**
   Make a recipe for something "yucky" with ingredients such as eggs, dirt, leaves, cooking oil, chocolate chips—anything to make a yucky combination. The clinicians ask the children, "What goes in next?" "How much/many?" etc. The group may divide into smaller groups to see who can come up with the "yuckiest" recipe.

5. **Story Chains**
   The clinician begins a story, then stops, and the children take turns adding to the story. The clinicians interpret while partners or siblings/peers write what the children dictate. Another version is for the siblings/peers to act out the story as it evolves, freezing between links of the story.

6. **Our Favorite Things**
   The clinicians sing "My Favorite Things" and then request new lyrics from the children. The partners interpret while the siblings write the new lyrics on the board. Then the children and partners help the clinicians sing the new lyrics.

7. **Rate That Song**
   Each day at lunch time, a current song is played. Older siblings could choose songs from the current popular list. The children rate each song from 1 to 10 or from okay to great and a composite score is tabulated. At the end of the week, the song with the highest score/rating is used to create the music video described in the next activity.

8. **Music Video**
   This activity should involve all the children, siblings, partners, clinicians, etc. The video is made to the music of the song of the week from the activity described in 7.

9. **PACT Newspaper**
   The children "write" stories for publication in the daily PACT news. The features can include the funniest thing that happened on a particular day for the cartoon section, a weather report, a headline story about a field trip or visitor, a child of the day (or two or three per day), etc. The clinicians and partners alternate as interviewers and interpreters while siblings/peers are responsible for writing and designing the newspaper, making photocopies and distributing them the same day.

10. **PACT on Parade**
    The children and clinicians plan and execute a parade for the partners. The children decide as a group how the parade will be organized (how many in the parade, who will play instruments, who will lead, who will hold the signs, what costumes or hats to wear, etc.) Siblings/peers can help construct the signs, costumes, and hats and help hold the signs.

11. **Group Roleplaying**
    The group plays school, restaurant, doctor, building a fort and having a battle, game show, dress-up. The children choose the setting and assign the roles, while the clinicians interpret and facilitate. The siblings/peers can roleplay such parts as class troublemaker, head cashier, receptionist, and game show host.

PACT COMMUNICATION EXPERIENCE ACTIVITIES

Craft Activities

Designing puppets to be used in roleplaying

Designing a hat for a clown or the clown's children

Making a popcorn clown: draw a giant clown on shelf paper. The children dip popcorn in food coloring, and when it is dry, glue it to the clown drawing.

Finger, thumb, and hand printing

Plant a seed for Mom or Dad

Sponge art

String painting

Crayon mosaics

Leaf designs with rocks, shells, twigs, etc.

Constructing percussion instruments to bang, hit, and jingle.

Making a gadget print: dip items such as sticks, spools, sponge bits, and potato pieces into paint and press the items on paper. Use this activity to design greeting cards, notepaper, and wrapping paper. Designs can also be created for thank-you notes or the logo for the PACT newspaper.

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Making a sprinkle painting: mix salt and powdered tempera in a shaker. Sprinkle over a piece of wet paper.

Body or shadow tracing

Face painting

Cooking Activities

Instant pudding

Rice pudding

Popcorn

Fruit salad

Ice cream sundaes

Gelatin desserts

Brownies

Peanut butter and jelly sandwiches cut with cookie cutters

Frosting and decorating cookies

S'mores (graham cracker, marshmallow, chocolate-bar squares)

PACT ROLEPLAYS

Real-Life Roleplays

Instructions:
These real-life roleplay situations pose ideas for structured communication activities in conversational practice. The clinician can choose and adapt the situation to make it as consistent as possible with the child's natural environment and PACT Intervention Goals. Examples of goal-specific adaptations are provided below. Roleplay situations may be used in dyad sessions with partner participation or in individual sessions with clinician participation. Additional adaptations may be made for the specific short-term goal being addressed (for example, requiring prompted or spontaneous behavior).

1. ***Circle Time***—Child and teacher go through the morning introduction time in the classroom discussing weather, class helpers, activities of the day, etc.
2. ***Sharing Time or Show and Tell***—Child verbally shares a favorite toy or treasure with teacher or classmate.
3. ***Planning a Picnic***—Child and teacher or parent plan a picnic together.
4. ***Getting Dressed***—Child and partner discuss what to wear, plans for the day, what's for breakfast, etc.
5. ***Playing House***—Child and partner plan and execute playing house, deciding who will be the mom, sister, etc., planning the story, and executing it.
6. ***Planning a Birthday Party***—Child and partner plan a party, deciding who to invite, what to use for decorations, what to eat, and what games to play.
7. ***Planning a School Field Trip***—Child and partner discuss where to go (zoo, museum, aquarium) and why, when to go, and how to get there.
8. ***Visiting the Pet Store***—Child and partner discuss the animals they see or want to see, facts about the animals, and types of pets they have had or want.
9. ***Swimming***—Child and partner discuss water games and activities, where to swim, when to get a snack, the temperature of air and water, and what friends might come to the pool.
10. ***Visiting at Lunch***—Child and partner converse at lunch about the morning, the food, and coming events of the day.
11. ***Bargaining for a Favorite TV Show***—Child and partner disagree over what to watch on TV. They discuss their reasons for wanting to watch a particular show and come to a compromise.

Example 1
Roleplay Situation: Planning a Picnic
Child Goal: Answers Other Questions
Partner Goal: Provides Pause Time

The clinician sets up the situation by instructing the partner to ask appropriate WH questions (Where should we go? Who should we take with us? What should we take to eat? When should we plan to go?) and then pause for at least four seconds (with or without a prompt from the clinician, depending on which short-term goal is being worked on). The clinician instructs the child to try to answer the questions. Both child and partner are given verbal reinforcement as they use the target behavior during the roleplay.

Example 2
Roleplay Situation: Planning a Picnic
Child Goal: Offers Information
Partner Goal: Modifies Questions

The clinician sets up the situation by instructing the child to tell the partner what kind of picnic is desired. Some children may need only encouragment to "take charge" and "say what they want." Others may need some ideas about what to say (Tell about the park you want to go to, who should go along, what would be good to eat, what games to play, or anything you would like for the picnic.) The clinician instructs the partner to avoid asking questions except those required to confirm the child's messages. Both child and partner are given verbal reinforcement as they use the target behaviors during the roleplay.

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12. ***Planning a Halloween Costume***—Child and partner plan how the child will dress up for Halloween. They discuss possible characters, various items of clothing, and make-up.
13. ***Planning a Sleep-Over with a Friend***—Child and partner plan a sleep-over discussing what to do, what to eat, when to eat, and sleeping arrangements.
14. ***Getting to Know a Substitute Teacher***—Child and partner act out the child's getting to know an unfamiliar teacher. Child will need to indicate "My name is _____," describe basic needs (thirsty, hungry, bathroom, lunch money), tell where things are located in the classroom, etc.
15. ***Having Dinner with the Babysitter***—Child and partner act out the child having dinner with a new babysitter. Child names the desired dinner items, provides any instructions about feeding, and plans after dinner activities (games, bath, bed, etc.)

Imaginary Roleplays

1. ***Magic Genie***—The clinician or partner is a genie. The child finds the genie in a jar on the beach and gets three wishes. The child tells what those wishes are and makes up a story about how they come true. Then reverse the roles so the child is the genie.
2. ***Hats of a Different Color***—The child has a dialogue with the partner (or clinician) who is playing a firefighter, police officer, chef, taxi driver, or detective and wearing an appropriate hat. The child asks questions ranging from very simple ones such as "What color is your hat?" to more complex ones such as "What do you like best about being a chef?" Reverse roles.
3. ***Imaginary Situations***—The clinician guides the child in developing an imaginary trip, friend, pet, place, etc. The child then tells the partner about it.

PACT SCRIPT POSSIBILITIES

Instructions:
Script possibilities present ideas for structured communication activities for conversational practice. The clinician can choose and adapt scripts as in Roleplays, mentioned earlier.

Child:	Cinderella
Partner:	Fairy godmother or wicked stepmother
Child:	Bedtime bear
Partner:	Child who is afraid of the dark
Child:	Superman
Partner:	Lois Lane or a criminal caught in the act
Child:	ET
Partner:	Elliott
Child:	Big Bad Wolf
Partner:	Three little pigs
Child:	Snoopy
Partner:	Charlie Brown
Child:	Tooth Fairy
Partner:	Naughty child who just lost three teeth by fighting
Child:	Customer
Partner:	Salesperson, cashier, or ticket-taker
Child:	Student
Partner:	Substitute teacher
Child:	Herself or himself asking a friend over or to a party
Partner:	New friend or neighbor
Child:	Movie star or rock star
Partner:	Reporter
Child:	Ghostbuster
Partner:	Monster
Child:	Snow White
Partner:	Witch
Child:	Gingerbread Man
Partner:	Man, woman, cow, etc.
Child:	Red Riding Hood
Partner:	Wolf

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PART 3:
The PACT Pilot Study

Chapters 1 through 4 describe the development of *Partners in Augmentative Communication Training* (PACT) as a communication-interaction facilitation training program for child augmentative technique users and their partners. The final step of program development was documentation of efficacy. The PACT Guidelines were piloted with children and their primary caregivers in a five-day camp format, which is thoroughly described in Chapter 6. However, in view of the previously stated assumption that communication interaction training should simultaneously address pertinent psychological issues, consultation regarding the development of appropriate psychological assessment and intervention considerations for the pilot project was sought. Dr. James Stahlecker and Dr. Linda Kelsey have provided such consultation. In this chapter, they share psychological assessment and intervention considerations as well as psychological findings from the PACT pilot study.

CHAPTER 5

CHAPTER 5

PACT Pilot Study

Psychological Consultation

by
James E. Stahlecker, Ph.D.
and
Linda G. Kelsey, Ph.D.

INTRODUCTION

The birth of a severely disabled child is a traumatic event that alters not only the birth experience for parents and child, but also drastically changes the subsequent development and functioning of the family unit. The support that parents obtain from family and friends influences their ability to cope with the feelings of loss that surround the birth of their impaired child (Stahlecker, in press). The parents' abilities to simultaneously grieve and still adapt to the child's demands are important contributors to the child's early growth and development and the emotional well-being of the family unit (Von Shilling 1968; Clifford and Crocker 1971; Waechter 1970; Stahlecker and Lou 1987).

For several reasons, parents and their impaired children appear to be at risk in the realm of social-emotional functioning during the earliest stages of the child's growth. Children with severe physical disabilities, whose natural vocal communication abilities are also compromised, appear very much at risk for developmental difficulties in all areas. With both behavioral and communicative channels of interaction limited, these children are most compromised in their ability to express their needs and have them met by caregivers. In the earliest stages of development, this affects the child's ability to effectively separate and view herself or himself in autonomous terms. Later in development, this affects the child's interest in the surroundings, formation and maintenance of friendships, development of pride in achievement, and development of a sense of self-esteem.

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For parents, the birth of an impaired child is an emotionally difficult time. Stemming from their depression, parents may become more invested in their own needs than in those of the child. Their responses to the child may be less immediate, less natural, and less frequent than might be expected. In the case of a child who is medically fragile, parents may anticipate rather than respond to cues in an effort to avoid undue stress on the child. Such anticipation of needs before the child provides a behavioral signal may actually limit the child's attainment of important developmental concepts, such as means-end reasoning. In the case of very impaired children whose developmental capabilities distort or limit their ability to send clear signals, parents' accuracy and immediacy of response may also be limited. This reading of signals from children whose motoric or linguistic capabilities are compromised often places parents in the position of being unable to understand (and thus unable to respond to) the needs the child attempts to express.

In the absence of interventions aimed at providing early communicative competence between parent and child, these dyads are at risk, as noted earlier. A child whose distorted efforts to attract and interact are misunderstood, ignored, or responded to inaccurately may become listless and unresponsive or wild and aggressive. Parents may become frustrated, angry, defensive, and unrealistic in their expectations for the child's developmental accomplishment or withdrawn, passive, overly accommodating, and undemanding of the child in terms of developmental accomplishment. Responding to these potential difficulties in the child-parent dyad requires not only the therapeutic imposition of an augmentative communication technique for the child, but the formation of a sensitive support system for the parent. Supportive interventions aimed at the child's ever-progressing capabilities of independent functioning is also necessary.

PSYCHOLOGICAL ASSESSMENT CONSIDERATIONS

Assumptions guiding the psychological planning for our pilot-study, summer-camp experience included the need to understand the families involved at a level beyond that of their simply being families with severely handicapped children. We identified and designed ways to learn more about the child and family. In conjunction with the speech pathology staff, we spent several hours with each child-parent dyad prior to the start of the camp experience. During that time we became acquainted, explained some of the aims of the training experience, gathered data on the children and the families through interviews and formal testing, and listened to the families' expectations, concerns, and hopes for this unique opportunity. Because we planned experiences for the children aimed at promoting greater independence, self-assuredness, and affective sensitivity, we gathered information about their current developmental capabilities, linguistic skills, and self-help capacities.

To provide an atmosphere in which families could form some positive affiliation with each other, we gathered information about the families ahead of time and organized discussion topics around commonly shared concerns. Specifically, we gathered information regarding (1) the family membership and structure, (2) the nature of the handicapped child's abilities and disabilities, (3) the parents' expectations of and for the child, (4) the various family relationships that surround the child, (5) the roles and responsibilities that the parents shared (or did not share) relating to the child, and (6) the nature and quality of the parents' relationship with interveners in the child's life.

PSYCHOLOGICAL ASSESSMENT PROCEDURES

Given such considerations, we designed a battery of psychological pre-assessment procedures for the child, parents, and child-parent dyad. These procedures are presented in Table 5-1. For research purposes, some procedures were re-administered immediately following the camp intervention and again three months post-intervention.

CHILD ASSESSMENT

Gathering standardized information on the children was complicated by the nature and severity of their physical and speech handicaps. Typical measures of intellectual functioning (for example, WISC-R, McCarthy, K-ABC) require verbal ability or motor dexterity, and even those nonverbal measures of intelligence most commonly used with language-impaired individuals (for example, Leiter) require a fair degree of fine-motor coordination. The Raven Progressive Matrices (Coloured Version) were chosen to provide a broad estimate of nonverbal intellectual functioning because these scales can be administered in such a way that motoric skills do not play a role in success or failure. The Raven Matrices (Raven 1962) are a series of progressively more difficult geometric forms that first ask the child to match simple patterns (selected from six choices). As the series becomes more difficult, the child is required to formulate relationships among various forms and to choose the most appropriate completion of the puzzle from six choices. While the Raven is a fairly old test and not particularly well-standardized in this country, it is among the few tests available that provides a broad estimate of nonverbal intellectual functioning without being contaminated by the child's deficits in either language or motor skill.

To gather information regarding the child's skills of independence and capabilities in the area of social relations, two subscales (Daily Living Skills and Socialization Skills) of the Vineland Adaptive Behavior Scales (Sparrow, Balla, and Cicchetti 1984) were administered during a parent interview. The Vineland is a widely used scale that gathers data by parent or teacher report regarding the child's functioning. The instrument is well-normed and used widely in special-education programs across the United States.

TABLE 5-1
PACT Psychological Assessment Procedures

Child Assessment	Parent Assessment	Child-Parent Dyad Assessment
Raven Progressive Matrices (Raven 1962) (Coloured Version)	Interview Scale (Stahlecker and Krentz 1987)	Videoanalysis of psychological interactions**
Vineland Adaptive Behavior (Sparrow, Balla, and Cicchetti 1984)	Parenting Stress Index* (Abidin 1983)	
Daily Living Skills Subscale		
Socialization Skills Subscale		

*Administered three months post-intervention.
**Administered post-intervention and three months post-intervention.

PARENT ASSESSMENT

An open-ended interview, Table 5-2, was employed to elicit parents' responses to questions regarding the child and family. The questionnaire was originally used in a longitudinal study of disabled children and their mothers conducted at the University of California, San Francisco, (Stahlecker, Krentz, and Hanson 1985), and was adapted to meet the needs of this population. Questions focused on the child's birth and the diagnosis of disability, on family and spouse reactions to the disability, on recollections of early handling and care of the child, on later issues that arose around the child's ability to separate and the parents' encouragement of independence, on the parent's sense of personal change associated with having a handicapped child,

TABLE 5-2
PACT Open-Ended Interview Format

General Format for Interview:
The clinical interview is intended to gather information about the child, the parent, and the family. The parent should feel comfortable and open. So that parents do not feel "interrogated," the interview is not put together in a rigid question-answer format. Use the following question format as a guide only!

Start the interview with a global introduction and a few demographic questions about the family (name of spouse and other children) so that the questions can be made more personal. Before starting the interview, be sure to ask if the parent has any questions. Ask again after concluding the interview.

SECTION I: Retrospective Information Regarding the Diagnostic Crisis
Can you talk a little bit about what you experienced around the time of your child's diagnosis?

How did you feel?

Who was there to help you?

What did they do?

How would you characterize your response to that whole situation?

If I were to ask you to speak with a mother who had just received the diagnosis that her child was neurologically impaired, what would you want to say to her?

SECTION II: Information About the Child and the Parent-Child Relationship
It would be helpful if you could describe your child for me as you see her (him).

First, tell me about the developmental accomplishments (crawling, feeding, walking, talking, sitting).

Tell me about your child's personality. When did you first notice a really separate personality developing in your child?

How would you compare your child developmentally with other children of the same age (children with no disabilities)?

Children with special needs usually move into special programs at an early age. This is the first time that some children experience any real separation from their parents (for a period of time more than a few minutes). Can you describe what the first time separating from your child was like? How did your child respond? How did you feel?

Now what is it like to separate from your child?

How does your child respond?

How do you feel? What is the longest period of time you are separated from your child?

Everybody hears about "the terrible two's"—you're pretty much through that second year of life. What was it like?

In what ways did your child exert her (his) independence?

How would you typically respond?

How independent would you say your child is now? How does she (he) show that?

Tell me a little bit about the program that your child is in:
- What is the best thing?
- What is your biggest gripe?

What was the transition from your infant program to the public-school program like?

How are the programs similar? How are they different?

What suggestions would you have for the infant program to better prepare you and your child for the public-school program? To better facilitate that transition?

How does it feel to have a child in special education?

SECTION III: The Mother and Her Relationships with the Child and Her Family
Tell me about your relationship with your child:
- How does your child show you love? How often?
- How does your child show you displeasure/anger? How often?
- How do you respond?
- How do you know when your child is feeling happy, sad, and angry?
- How do you typically respond?

What is it like to be the mother of your child? What is your own life like now?

What do you do just for you? How often?

What is your social life like?

How would you like it to be?

What has been your greatest problem in raising your child so far?

What have been the greatest successes?

Tell me a little bit about your family:
- Are things between you and your spouse the same or different from before your child was born? How so?
- How would you characterize your relationship with your spouse?
- Have you talked about having other children? Is there conflict about having other children?
- How do you and your spouse divide responsibility for this child? Is this satisfactory with you?
- What is your spouse's relationship like with your child?
- How do you divide your time between the child (other children) and your spouse?

and on the parent's hopes, aspirations, and fears for the child's future. Before the interviews were conducted, it was explained that the information would be kept confidential and that any use of the interview data would appropriately alter names and identifying information so that families could not be identified.

While the interviews were essentially used to gather information and to plan for the intervention program, they were also transcribed and scored among criteria previously established to rate *parent adaptedness*. The following six key attributes were defined from specific parts of the interview:

Perspective-taking on the diagnostic crisis
Facilitation of separation-individuation
Special education: adaptation to transitions
Emotional status of the caregiver-child dyad
Description of the child
Integration of the child in the family unit

Each of these attributes was scored along an anchored semantic-differential type of rating scale described by Stahlecker and Krentz (1987).

In addition to the interview information, "standardized" questionnaire data was gathered from each parent. The Parenting Stress Index (PSI) (Abidin 1983) was used to gather information regarding the impact the handicapped child had on the parents in terms of additional stress on their lives or their relationship. The PSI contains questions regarding the child's contribution to parent dysfunction or stress, such as the child's adaptability, demandingness, or hyperactivity, and questions regarding how the parent experiences this dysfunction or stress, such as depression, restriction of role, or social isolation. The questionnaire yields a score for the Child Domain and the Parent Domain as well as a total Stress Index score. In addition, subscale scores from thirteen dimensions of stress are provided. The PSI contains 120 questions and is easily hand-scored.

CHILD-PARENT DYAD ASSESSMENT

All the children and their primary caregivers were observed and videotaped while interacting over a simple food-preparation task (making pudding) and a play task (making a mask or painting faces). While the primary intent of these tasks was to gather information regarding communication strategies used by the child and the parent, the videotapes were also viewed to examine the child's affect, initiative, compliance, and overall cooperativeness. Similarly, the tapes were used to examine the parent's affect, level of support for the child's independence, sensitivity to the child's communication (nonverbal and verbal) attempts, and directiveness. Videotapes were scored along criteria established for this project but modeled after the interactive coding criteria of Matas, Arend, and Sroufe (1978). Children were rated, using anchored semantic-differential scales, on the dimensions of (1) Involved Participation in the Task, (2) Enthusiasm for the Task, and (3) Demonstration of Anger or Noncompliance. Parents were rated on the single dimension of Demonstration of Supportiveness.

PSYCHOLOGICAL INTERVENTION PROCEDURES

PACT psychological interventions were aimed at both the children and their parents. Of the eleven children involved in the summer-training experience, nine lived in two-parent homes. One child lived with adoptive parents and one lived with a single parent. Four of the children had both mother and father with them through the week and both parents participated in the parent group. The other seven children had only their mothers participating in the week-long experience. Primary caregivers serving as subjects included nine natural mothers, one adoptive mother, and one natural father.

CHILD INTERVENTION

All children involved in the pilot project participated in a daily one-hour group facilitated by the mental-health consultants. These group sessions had the following general goals:

1. To identify, talk about, and personalize feelings of
   a. being different
   b. being accepted
   c. recognizing self-worth

2. To establish the ability to use labels for feeling
   a. jealous
   b. lonely
   c. frustrated
   d. disappointed
   e. excited

3. To develop skills in systematic relaxation.

In preparing activities for the children's group, we selected parts of the DUSO (Developing Understanding of Self and Others) materials (Dinkmeyer and Dinkmeyer 1982). In coordination with the DUSO lessons, children were removed from their wheelchairs during this time each day, and systematic deep-muscle relaxation activities were employed to encourage a relaxed atmosphere. Stories were selected to address specific themes that seemed particularly salient for these children.

Daily Activity Group for Children

Day 1
Goal: To assist in the expression of feelings
DUSO story: "All the Colors of Lefty"
Relaxation activity

Day 2
Goal: To identify self-limitations and to learn to cope with those limitations
DUSO story: "Runaway Ruby"
Relaxation activity

Day 3
Goal: To identify our feelings of rejection and to learn to cope with rejection
DUSO story: "The Box"
Story: *Alexander's Bad Day* by Judith Viorst
Relaxation activity

Day 4
Goal: To identify failure or mistakes as a part of life
DUSO story: "The Mistake"
Relaxation activity

Day 5
Goal: To identify feelings of being different
DUSO story: "Pudge Swims Alone"
Relaxation activity

Although relaxation was not initially planned on a daily basis, the relaxation techniques were among the most successful parts of the children's group. The children were, without question, able to utilize the techniques to reduce spasticity. Throughout the week they also used this time to make physical contact with each other. Each day, special activities to facilitate more spontaneous communication were planned for children and parents. These activities outside the context of therapy greatly facilitated the children's development of a repertoire of independent skills—especially on one field trip when parents were asked not to pair with their children. Children who had not previously ridden a school bus independently had that opportunity. Children who had not previously gone swimming with anyone but the parent had that opportunity. Parent anxieties around this kind of "letting go" were addressed immediately, since the mental-health consultants were also project participants.

PARENT INTERVENTION

All parents involved in the week-long experience participated in a daily 75-minute parent support group. The general goals of the group were to

1. Provide a setting for identification of shared experiences and feelings related to rearing a special child
2. Discuss techniques for fostering independence and relate them to communication
3. Provide an extraordinary supportive environment for learning new communication skills.

The parent support group began with a planned outline of topics for each of the five days. While the staff was prepared to guide discussion in each of these areas, discussion was encouraged in any other direction that the participants felt drawn.

Planned Parent Group Activities

Day 1
Introduction of participants
Questions about the program
Expectations and hopes for the children

Day 2
Description of families
Issues in raising a handicapped child

Day 3
Communication concerns and use of a *system*
School relations and problems
Interaction with interveners

Day 4
Family relationships
Impact on the marriage and on siblings

Day 5
Summary and wrap-up
Evaluation of the program

After the first day, parents began actively participating in the group and suggesting their own concerns. Most formal agenda was set aside. In general, the topics were addressed over and over again within the group. Issues ranged from the frustrations of dealing with school districts and interveners and the difficulties of leaving severely handicapped children with relatives or sitters, to toilet training and difficulties with equipment needed by the children. Parents clearly identified that their marital relationships often took a back seat to caregiving demands because finding appropriate temporary care was difficult and making use of such care when found was anxiety-producing.

A somewhat unanticipated but important function of the consulting mental-health staff occurred with parents in a troubleshooting capacity. Much of the troubleshooting activity involved specific parent concerns regarding the intensive experience. Typical of any intensive experience, momentary problems evoked anxiety and tension. While the group process itself was identified as confidential and not open to the other clinicians involved in program activities, concerns regarding the program

or clinician were first discussed within the context of the parent group. We then asked the parents' permission to share specific concerns with the staff. In this way, the mental-health consultants served as liaison between parents and the program staff. Specific concerns arose regarding the nature of interventions that for some children involved *light* rather than *high* technologies. Some parents felt that "hooking their children up" with more sophisticated technologies was the primary goal of the program and that personal goals were not given priority. Some parents felt the program was so intensive that no time was allowed to interact and share among themselves. Others felt pushed to use interventions that were foreign to them and at times felt criticized when they were not as facile with techniques as the clinicians were. The group provided an opportunity for the parents to express these feelings and for the group facilitators to work with the staff in addressing parents' concerns.

A goal that quickly emerged from the parents was to establish opportunities for informal exchange of ideas and concerns regarding their children. Some parents organized an evening of shopping; others met at the hotel for dinner or swimming. In the context of this support group, the parents planned to continue communication with each other beyond the week together. Throughout the week, many parents brought in articles, pictures, brochures, and books regarding available equipment and resources. To encourage this exchange, all materials brought in were copied for distribution. This informal exchange both within and outside the context of the group promoted a level of trust and camaraderie among the parents that facilitated committed participation.

PSYCHOLOGICAL RESULTS

Descriptive data are available for eleven child-parent dyads.

Comparative data are available for nine dyads.

DESCRIPTIVE PSYCHOLOGICAL DATA REGARDING THE CHILDREN

The group of children and their parents involved in the summer program was typified by wide diversity. Children ranged in age from 3 to 13 years old (see Chapter 6 for specific data). Nonverbal intellectual skill, as tapped by the Raven, indicated intellectual functioning ranging from the mildly/borderline retarded range (n = 4) to the low average/average range (n = 5). One child was not tested because her age was below that of the Raven norming sample, and one child refused participation around this formal testing procedure. According to the Vineland report of the parents, all children involved in the program had significantly impaired self-help skills. Every child in the sample was in the lowest percentile ranking possible in the area of self-help skills when compared with same-aged peers; each had self-help skills in the range of the normally developing two-year-old. Socialization skills, as rated by the parent, varied widely and were uncorrelated with assessment of nonverbal-intellectual skill or informal observation of motoric capability. More than half the sample was rated as having significantly impaired social-relational skill. Three of the four children assessed as having nonverbal-intellectual skill in the borderline/mild range of retardation and three of the five children assessed as having nonverbal-intellectual skill in the low average/average range were rated by their parents as having socialization skills in the range of two to three standard deviations below the mean. Three of the five children rated as having socialization skills in the low average/average range also demonstrated the most advanced receptive language skills on formal testing.

DESCRIPTIVE PSYCHOLOGICAL DATA REGARDING THE PARENTS

Information obtained from the interviews was used primarily for planning the intervention program to meet the needs of parent participants in the pilot project. While individual parent ratings on the seven-point scale for the six previously noted key attributes varied somewhat, for the group as a whole ratings tended to cluster in the middle range (ratings of 3, 4, and 5) of the seven-point adaptedness scales for all attributes. In summary, frequency counts of parent adaptedness ratings across the six attributes revealed that 74% of all ratings fell in the middle range of adaptedness with 22% and 4% of ratings falling in the more adapted and less adapted ranges respectively. No trends were noted with regard to ratings relative to the six attributes.

Results of the pre-test Parenting Stress Index (PSI) (Abidin 1983) protocol indicated that two of the eleven primary caregivers found their child displayed qualities that made it difficult for them to feel successful as parents. Six of the eleven primary caregivers experienced some aspect of their child or the child's behavior as significantly stressful. Of that group, four provided significantly elevated response scores on the dimensions of Child Adaptability and Acceptability of Child. Elevated scores on these dimensions are generally associated with child characteristics that make parenting more difficult (because of the child's inability to make adjustments in the physical or social environment) and with child characteristics that do not match those attributes hoped for by the parent (intellectual skill, social skills, attractiveness). Five of the primary caregivers

provided a significantly elevated profile on the dimension Child Demandingness, indicating an unduly high frequency of minor problem behaviors that demanded parent attention.

One of the primary caregivers provided a PSI profile that indicated the probability of significant personal difficulty associated with fulfilling the demands of being a parent. However, six of the eleven primary caregivers indicated experiencing personal stress around the parenting of their child. Of these six, three provided a significantly elevated profile on the dimension Parent-Child Attachment, indicating either a lack of emotional closeness with the child or a sense of being unable to accurately read the child's signals and cues. Two primary caregivers provided significantly elevated profiles on the dimensions Depression, Sense of Competence, and Spousal Relationship, indicating a general lack of support, a sense of personal frustration and depression, and the probability of interpersonal tension within the family unit. Observations from the parent interviews underscored the above findings. Many times parents observed their own reluctance to "let go" of their child and encourage greater independence. This reluctance seemed fueled by their own difficulty in "reading" the child's cues and their fear that the child would be unable to communicate needs to another caregiver. Finally, statistical comparison of pre-test and delayed post-test PSI scores for pilot project parents (n = 9) revealed no significant differences in parent ratings.

DESCRIPTIVE AND COMPARATIVE PSYCHOLOGICAL DATA FOR CHILD-PARENT DYADS

Videotape ratings of child-parent interaction, while not demonstrating statistically significant pre-/post-change or delayed post-change, did demonstrate trends that underscore the success of the program. Overall, children were rated as more involved participants in the videotaped tasks at both post-test times, and their parents were rated as more supportive of the child's independent functioning at both post-test times. Although no change was noted in the children's enthusiasm for the tasks, their level of anger or noncompliance was rated as slightly greater at both post-test times when compared with the baseline data before intervention. This movement toward expressing negativity appeared to be a developmental advance for this group of children who seemed initially to be far more passive than expected for their age group. Table 5-3 summarizes the mean values given for each dimension of the videotape rating at time 1 (prior to intervention), time 2 (immediately following intervention), and time 3 (three months following intervention).

TABLE 5-3
PACT Mean Value of Caregiver-Child Interaction Ratings

	Time 1	Time 2	Time 3
Child involvement/participation in task	3.44	3.72	4.17
Child enthusiasm for task	3.72	3.72	3.78
Child demonstration of anger or noncompliance	1.50	2.06	1.89
Parent demonstration of supportiveness to child	3.44	3.94	4.06

DISCUSSION

While it was clear from the outset of planning that the primary focus of this intervention was to be communication interaction training for the children and their caregivers, it was also recognized that intervention would be useful only if provided within the range of child-parent capabilities and in the context of these individuals' relationships. It was never anticipated that providing on-call consultation to parents would effect psychological change of a measurable kind, given the length of the program. However, the mental-health component in this project contributed several unique advantages that most likely helped promote the project's success. Because parents had a place to discuss their concerns, feelings, and anxieties, problems (which must be expected in any intensive program) could be handled immediately. Because the program interveners did not have to handle these concerns directly, they were able to remain more open and maintain a problem-solving orientation. The time provided for parents to socialize and exchange ideas and feelings seemed invaluable in terms of promoting group cohesiveness. Having trained mental-health therapists as program consultants (as well as group facilitators) allowed for informal problem-solving with parents around issues unrelated to the project but directly related to the caregiver, child, or family. Finally, special activities for the children helped provide a change from the rigors of intensive therapy and encouraged the children to relax and interact with each other in less structured ways.

Future programming would benefit by grouping the children in somewhat homogeneous age and ability levels. Group programming for children with such diverse ages and ability levels was difficult. In nearly all situations, the activity planned was either too advanced or too immature for at least one child in the group. On the other hand, the diversity of the group allowed for more rapid parent-group formation, since parents of younger children were eager to interact with parents of older children to

learn what might lie ahead for them. Finally, a parent group that has minimal didactic structure seems essential to the functioning of any intensive effort such as this. As parents interacted with each other and observed the staff modifying the program around their expressed concerns, a greater sense of trust and mutual cooperation was developed. The facilitation of parents and professionals working together may in the long run be one of the greatest benefits of such programming.

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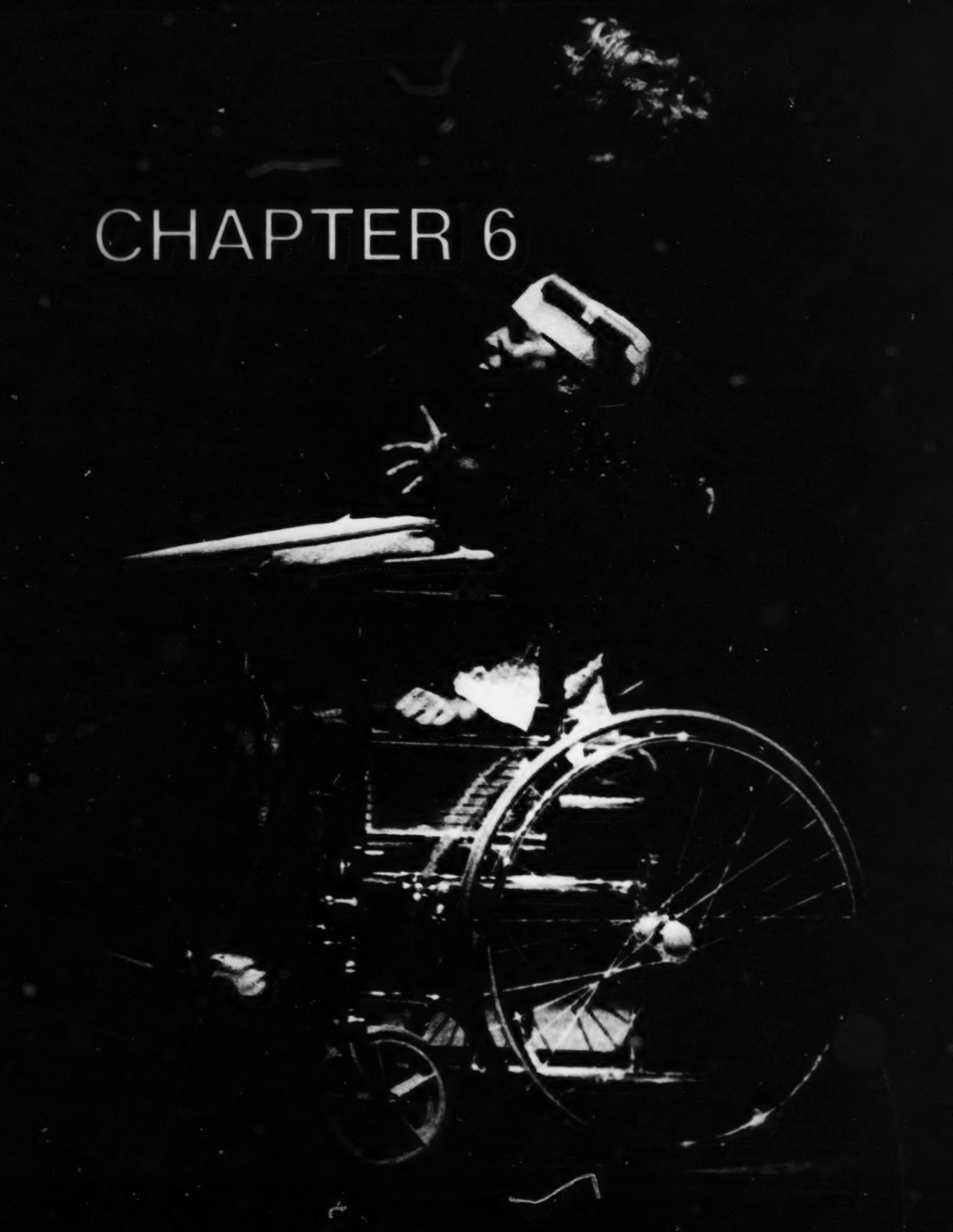
CHAPTER 6



CHAPTER 6

PACT Pilot Study— Communication Description and Results

The PACT Guidelines were piloted in July 1986 with a sample group of nonspeaking children and their primary caregivers. Pre-test, post-test, and delayed post-test data are available for nine dyads. This chapter provides a basic summary of the communication aspects of this project in terms of subjects, procedures, results, and impressions.

SUBJECTS

Children—Eleven children, ages 3-13 years, served as subjects in the pilot study. All were cerebral palsied, nonspeaking, normal hearing, and nonambulatory. All demonstrated reading and spelling skills below the third-grade level. Child scores on formal tests are available in Table 6-1. All subjects demonstrated functional language comprehension for participating in basic conversation. Psychological measures are described in Chapter 5.

Components of the children's communication systems varied substantially. Each system is outlined in Table 6-2. All the children had been fitted with augmentative techniques and demonstrated at least basic competence in their symbol systems and transmission techniques.

TABLE 6-1
PACT Pilot Study
Child Subject Characteristics

Subject	C.A. (Mos.)	TACL-R (A.E./Mos.)	PPVT-L (Standard Score)	Self-help* (A.E./Mos.)	Socialization* (A.E./Mos.)	Raven* Est. IQ
1	162	77	48	37	71	72
2	141	102	68	27	71	81
3	120	43	below norms	29	90	72
4	77	51	53	24	33	98
5	93	96	79	34	80	100
6	120	66	74	18	66	68
7	137	119+	82	34	93	90
8	46	49	90	25	57	—
9	113	102	83	21	26	100
10	60	46	—	21	40	—
11	108	74	—	16	28	71

*Data compiled by Dr. James E. Stahlecker, Callier Center for Communication Disorders, University of Texas, and Dr. Linda G. Kelsey, Terrell State Hospital, Terrell, Texas.

TABLE 6-2
PACT Pilot Study
Child Communication System

Summary of Primary Augmentative Techniques

Subject	Technique Label	Representation Technique	Transmission Technique	Other Modes
1	Communication Board/ Headpointer	Rebus	Direct Selection	F/G/V/S
2	VOIS 135	Alphabet/Word/Bliss	Direct Selection	E/F/G/S
3	Communication Board/ Lightpointer	Rebus	Direct Selection	F/G/V
4	Communication Board	Rebus	Direct Selection	E/F/G/V/S*/Sg
5	VOIS 135	Alphabet/Word	Direct Selection	E/F/G/V/S*
6	EVAL PAC	Alphabet/Word/ Picture	Scanning	E/F/G/V/S*
7	Communication Board/ Lightpointer	Alphabet/Word/Rebus	Direct Selection	E/F/G/V/S**
8	Communication Board	Rebus	Direct Selection	E/F/G/V/S**
9	ETRAN w/ Communication Board	Alphabet/Word	Directed Scanning	E/F/G/V/S*
10	Communication Board	Rebus	Direct Selection	E/F/G/V/S
11	Communication Board/ Eye Gaze	Rebus/Alphabet/Word	Directed Scanning	E/F/V

Modes:
E = Eye Gaze
F = Facial Expression
G = Gesture
V = Vocalization
S = Speech
Sg = Sign

*Less than 10 words intelligible to family
**Sentences intelligible to family

PARTNERS

Partners in the pilot study were the children's eleven primary caretakers and included nine natural mothers, one adoptive mother (of seven years), and one natural father. All training and practice was directed toward these parents. However, other parents and siblings were encouraged to attend, observe, and participate. Four additional parents and seven siblings attended some or all sessions.

PROCEDURES

COMMUNICATION MEASUREMENT
Repeated communication measures for the study included:

The PACT Child Rating Scale
The PACT Partner Rating Scale
The PACT Interaction Profile

These measures were administered pre-test (during the month preceding intervention), post-test (on the final day of intervention), and delayed post-test (three months after completion of intervention).

IMPLEMENTATION OF INTERVENTION

The format for the pilot-study intervention program was a day camp of five days. The camp was conducted at the Callier Center for Communication Disorders, the University of Texas at Dallas. Hotel accommodations were provided for out-of-town subjects. The camp was staffed by one speech-language pathologist/coordinator, two speech-language pathologists, one speech-language pathology research assistant, six graduate clinicians in speech pathology, two psychologists, and one physical therapist. Before the first day of camp,

based on pre-test data, an individualized communication facilitation program had been developed from the PACT Intervention Guidelines for each dyad. All activities during camp focused on implementing each dyad's individualized program. Daily therapies included:

- 30-minute group communication training (all camp participants)
- 45-minute child communication training (individual)
- 45-minute child communication training (group)
- 45-minute dyad communication training (a single dyad)
- 45-minute partner communication training (group)
- 45-minute child psychological training (group)
- 75-minute partner psychological training (group)

To encourage more spontaneous use of communication skills, each day included special activities such as a carnival, an "Olympic" competition, Joto the Clown, a visit to a TV station, a pool party, a trip to a pizza parlor, and a visit from zoo animals. A parent luncheon away from camp was offered midweek. Finally, after preparation in groups throughout the week, on the last day of camp, the children presented the play *Snow White.* A sample daily schedule has been included in Table 6-3.

TABLE 6-3
PACT Pilot Study
Sample Daily Schedule

9:00 a.m.— 9:30 a.m.	Clinician Briefing
9:30 a.m.—10:00 a.m.	All Participants
10:00 a.m.—10:45 a.m.	Parent Group—Psychology Child Group A 5 Individual Child-Communication Therapy Sessions
11:00 a.m.—11:45 a.m.	Parent Group—Communication Child Group B 6 Individual Child-Communication Therapy Sessions
12:00 noon— 1:30 p.m.	Lunch
1:30 p.m.— 3:00 p.m.	Experiential Activity*
3:15 p.m.— 4:00 p.m.	Individual Dyad Sessions
4:00 p.m.— 4:45 p.m.	Child Group—Psychology
4:45 p.m.— 5:15 p.m.	Clinician Debriefing

*Scheduled activities included field trips to Show Biz Pizza and WFAA-TV, a visit by animals from the Dallas Zoo, a professional clown, a pool party, a parent luncheon, a carnival, and a play and awards ceremony.

GRADUATE CLINICIANS' IMPLEMENTATION OF THE INTERVENTION GUIDELINES

Individual child communication therapy and some dyad therapy was provided by the six graduate-student clinicians under the supervision of certified speech-language pathologists. These graduate clinicians had not yet completed coursework in cerebral palsy or augmentative communication and were thus dependent for knowledge in these areas on a two-day pre-PACT workshop, a reading list, and the PACT resource guide. However, supervisors noted that despite their limited background the graduate clinicians were generally able to implement the PACT Intervention Guidelines and previously identified goals effectively.

RESULTS

Results of complete data sets are available for nine dyads.

PACT CHILD/PARTNER RATING SCALES—COMMUNICATION ATTITUDES

Initial administration of the rating scales was clinically useful. Several dyads reported attitudes or misperceptions of their child's/partner's attitudes that required clinical attention.

ATTITUDES TOWARD NATURAL SPEECH

In general, analyzing the group results, both child and partner reported that attitudes regarding talking or oral speech were positive on initial and repeated administrations. This finding was consistent regardless of the severity of the child's expressive communication disorder. However, some changes were noted in child and partner attitudes regarding augmentative techniques. Responses to rating-scale questions regarding augmentative techniques are summarized in terms of percentage of total responses in Tables 6-4 and 6-5.

TABLE 6-4
PACT Pilot Study
Child Attitudes About Augmentative Technique
Percentage of Agreement/Disagreement for All Subjects' Responses

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Child Attitude	Child Response Pre-Test	8%	6%	6%	6%	74%
	Child Response Post-Test	2%	4%	10%	8%	76%
	Child Response D-Post-Test	0%	0%	0%	0%	100%
Parent Perception of Child Attitude	Parent Response Pre-Test	0%	6%	16%	40%	36%
	Parent Response Post-Test	0%	0%	18%	54%	28%
	Parent Response D-Post-Test	0%	4%	8%	44%	42%

TABLE 6-5
PACT Pilot Study
Parent Attitudes About Augmentative Techniques
Percentage of Agreement/Disagreement for All Subjects' Responses

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Child Perception of Parent Attitude	Child Response Pre-Test	16%	6%	4%	8%	66%
	Child Response Post-Test	0%	0%	4%	2%	94%
	Child Response D-Post-Test	0%	0%	0%	3%	97%
Parent Attitude	Parent Response Pre-Test	0%	6%	10%	38%	44%
	Parent Response Post-Test	0%	0%	6%	56%	38%
	Parent Response D-Post-Test	0%	3%	3%	51%	44%

ATTITUDES TOWARD AUGMENTATIVE TECHNIQUES

Although the children's attitudes toward augmentative techniques (Table 6-4) were relatively positive in the pre-test, they were slightly more positive in the post-test. In the delayed post-test, child attitudes were extremely positive, as 100% of the children strongly agreed with all positive statements about their augmentative techniques. Parents' perceptions of their children's attitudes about augmentation were initially more negative than the children's report. Parent perceptions grew more positive with repeated adminstrations of the rating scale, but failed to reflect the degree of positivity of the children's responses.

Parent attitudes (Table 6-5) varied less than child attitudes. Actually only minimal shifts were noted with repeated administration. However, child perceptions of parent attitudes were interesting. Initially, the children perceived their parents to be more positive about augmentation than the parents report. Although the parents' reported attitudes did not become more positive, the children's perceptions of their parents' attitudes were substantially more positive immediately after camp. These perceptions persisted in the delayed post-test condition.

INTERACTION PROFILE RELIABILITY

All Interaction Profiles for the pilot study were coded simultaneously by the same two-clinician team. Both clinicians had been trained and practiced in scoring the Interaction Profile. One clinician was familiar with all the subjects and with the PACT study. The goal in using this specific team was to make knowledge of the children's idiosyncratic communication available to the study through the

familiar clinician but to deter experimenter bias with the unfamiliar clinician. Only ratings agreed upon by both clinicians were recorded. The clinicians analyzed the 27 tapes in random order to minimize a practice effect. An intra-observer/team-reliability measure was conducted. The clinicians re-analyzed, blind to their original observations, two randomly selected tapes two weeks following their first analysis. Correlation coefficients for child function counts, child mode and discourse ratings, and partner function, mode, and discourse ratings ranged from .866 to .987 for these two tapes.

COMMUNICATION CONTEXTS

The communication contexts for repeated administration in the pilot study were a snack and craft situation. Consistent written instructions were read to the dyads before the beginning of each context. Materials available during the contexts were consistently controlled. All taping was conducted through a one-way mirror.

In the snack situation, the dyad was given snack options (popcorn, pudding, and cheese and crackers) and asked to choose, make, and eat a snack. In the craft situation, the dyad was given facepaint and mask-making materials and asked to give one or both members of the dyad a "new look."

GENERAL OBSERVATIONS ABOUT THE INTERACTION DATA

Given the short-term nature of the intervention format, it was rewarding to see statistically significant improvements in a variety of child-partner interaction behaviors (measured by the Interaction Profile) between the pre-test and both the immediate and delayed post-test conditions. Although some mild regressions were noted between the post-test and the delayed post-test, none were statistically significant for the group. Improvements noted at the post-test thus appeared to be relatively durable.

CHILD-INTERACTION BEHAVIORS—FUNCTIONS

Child message functions in the pre-test profiles were predominantly answers to yes/no and short-answer WH questions. In the post-test condition, the children demonstrated significantly fewer yes/no messages ($t = 3.557$; $p = .0061$) and significantly more information offerings ($t = 4.33$; $p = .0019$). Although not statistically significant, the children also demonstrated substantial increases in the following functions: answers other questions, expresses feelings, and requests assistance/object/action. These changes in function behaviors were maintained in the delayed post-test condition.

CHILD-INTERACTION BEHAVIORS—MODE

Two notable changes were identified in the pre-test/post-test mode behaviors and were maintained in the delayed post-test condition. First, in the eighteen pre-test communication contexts (nine dyads for two contexts each), the children demonstrated use of augmentative techniques, all of which were made physically available, seven times. In the post-test contexts, augmentative techniques were used 158 times. This difference in performance was significant at the .0001 level ($t = 6.325$). Second, based on Chi2 analysis, with Yates Correction for Continuity, a significant improvement was noted in mode selection behavior ratings ($x2 = 12.766$; $p < .01$). Thus, as measured by the Interaction Profile, the children more consistently selected a communication mode that appeared to be appropriate relative to partner and context.

CHILD INTERACTION BEHAVIORS—DISCOURSE

In the pre-test condition, the strongest discourse behaviors of the pilot-study children as a group were securing attention and responding to partner. Pre-test ratings were poorest for sustaining a topic and repairing communication breakdown. Chi2 analysis was used to compare expected post-test ratings of all discourse behaviors (based on pre-test rating frequency counts) to actual post-test ratings. Actual ratings were significantly better than expected ratings ($x2 = 14.34$; $p < .01$). Thus, the pilot program had a significant positive effect on the children's discourse skills in these two contexts. In evaluating the children's performance regarding individual discourse behaviors, group improvements were noted in the following behaviors: provides feedback, secures attention, and sustains a topic. However, these improvements were not statistically significant when evaluated by a Chi2 test with the Yates Correction.

CHILD INTERACTION BEHAVIOR—TARGET/NON-TARGET FUNCTION, MODE, AND DISCOURSE BEHAVIORS

To evaluate the relative change in the children's target behaviors (addressed by the intervention goals) and non-target behaviors, tallies of behavior change (pre-test to post-test) were prepared, and Sign tests were used to determine if the changes noted were significant. With regard to target behaviors, of 27 opportunities for change, 3 were decreases, 21 were increases, and 3 were no changes. Thus, the number of increases (degree of improvement) in target behaviors was significant at the .01 level. For non-target behaviors, of 144 opportunities for change, there were 20 decreases,

62 increases, and 62 no changes. The number of increases in non-target child behaviors was significant at the .01 level. These findings indicate that the PACT intervention had a positive impact on both target and non-target communication behaviors for the children as a group as measured by the Interaction Profile.

PARTNER INTERACTION BEHAVIOR—FUNCTION, MODE, AND DISCOURSE BEHAVIORS

Using Chi2 analysis to evaluate partner pre-test versus post-test skill ratings for function, mode, and discourse behaviors together, the parents demonstrated a significant positive shift in skill ratings ($x2 = 27.62$; $p < .001$). Thus, the intervention program had a significant positive effect on the parents' function, mode, and discourse skills as a whole, as measured by the Interaction Profile. This shift was also durable in the delayed post-test condition.

For specific behaviors, in the pre-test, parents were rated highest in varying functions, positioning self, reinforcing child messages, confirming child messages, and elaborating child messages. Behavior ratings were lowest for modeling augmentative technique use, providing pause time, and modifying questions. In the post-test, parents demonstrated improvement on seven of the eight behaviors rated. No improvement could be noted in positioning self due to excellent pre-test ratings. Using Chi2 analysis with Yates Correction for Continuity, these statistically significant improvements in skill ratings were noted for providing pause time ($x2 = 15.822$; $p < .001$); modeling augmentative technique use ($x2 = 6.339$; $p < .05$); and modifying questions ($x2 = 6.1618$; $p < .05$). In general, with just one week's training, parents established much improved skills in the function, mode, and discourse behaviors assessed by the Interaction Profile. However, parents frequently attempted a target behavior (pausing), got no child response, and then resorted to previous communication patterns (*yes/no* questions or other questions).

PARTNER-INTERACTION BEHAVIORS—TARGET/NON-TARGET FUNCTION, MODE, AND DISCOURSE

As with the children, we used Sign tests to evaluate the relative change in the parents' target and non-target behaviors. For the target behaviors, out of 26 opportunities for change between the pre-test and post-test, 1 decrease, 19 increases, and 6 no changes were noted. Thus, the number of relative increases (improvements) in target behaviors was significant at the .01 level. Furthermore, for non-target behaviors, out of 46 opportunities, there were 3 decreases, 16 increases, and 27 no changes. The number of increases in non-target parent-behavior ratings was significant at the .01 level. These findings indicate that the PACT intervention had a positive impact on **all** partner communication behaviors, as measured by the Interaction Profile.

INTERACTION CHARACTERISTICS—FREQUENCY, INTELLIGIBILITY, AND TIME

Frequency of child messages refers to the ratio of the number of child messages to the total number of child and partner messages for both contexts. The intelligibility ratio refers to the number of successful child messages out of the total child messages for both contexts. Time refers to the number of combined minutes of interaction required for completion of 25 child messages in each of the two contexts. Based on two-sample t-tests for the nine dyads, there were no significant differences in these variables across repeated measures. Although we would hope to see improvements in these important aspects of interaction, a variety of factors may be distorting our measurement. For example, the children demonstrated increased length and complexity of their messages in the post-test situation. Thus, despite producing messages more frequently, those produced took more time. Therefore, the overall time to formulate 25 messages may not have changed.

CASE STUDY ANALYSIS

One case study from the pilot study has been formally reported (Suggs and Culp 1987). Although all nine dyads demonstrated improved performance on the Interaction Profile, case-study analysis has been productive in understanding specific dynamics of a particular dyad.

PARENT PROGRAM—EVALUATION FORMS

At the end of camp, parents completed a program-evaluation form. Parent ratings and comments were generally positive. One portion of the form asked the parent to rate various aspects of the program on a five-point scale. Ratings for several such aspects are summarized in Table 6-6. Parents seemed most positive about group sessions, staff (no doubt reflecting staff ratio), and program goals. Some parents found the intensive schedule somewhat objectionable. When asked about the most important thing learned at camp, parents' responses focused on making augmentation available, providing pause time, modifying questions, and following the child's lead. General comments about the impact of the program on parent and child were very positive. Several parents expressed concern about implementing PACT concepts during the stress of daily living.

TABLE 6-6
PACT Pilot Study
Parent Evaluation Ratings

	Poor	Fair	Good	Excellent	Super
Staff			1	2	6
Program Goals			2	6	1
Individual or Dyad Sessions			3	2	4
Group Sessions			1	1	7
Camp Atmosphere			2	2	5
Daily Schedule		3	4	2	

The Parent Evaluation Form was not readministered at the delayed post-test, but the parents did meet as a group for informal discussion. Generally, the parents were enthusiastic about the continuing communicative impact of their camp experience. However, the two parents whose children have some intelligible conversational speech indicated that they found implementing continued programming at home more difficult.

IMPRESSIONS

We are extremely pleased and encouraged with the results of the PACT pilot study from both clinical and research perspectives and by the data's suggestion that with individualized partner-child interaction training, durable improvements can be made in function, mode, and discourse behaviors that had been previously identified as disruptive in augmented dyads. Although results of the pilot study are not necessarily indicative of improvement in functional communication or performance in natural environments, these results demand continued pursuit of the guidelines in clinical and research settings.

CLINICAL ISSUES

Clinically, use of the PACT Guidelines may pose numerous issues regarding an appropriate service delivery model. Other clinicians may not have access to a camp environment, intensive intervention, parent participation, group enrollment, optimal clinician-dyad ratio, or mental health services. Adaptations regarding these options can be made and carefully monitored. Clearly, some such adaptations may be productive, such as long-term intervention, teacher-peer-sibling training, and natural environment.

In future service delivery models for the PACT Guidelines, because of positive feedback from the parents about the group experience, the group approach should be maintained. Logistically this may be manageable in large school districts, but in smaller districts there may be only one child who is a candidate for PACT. Another aspect of the pilot study we would like to preserve is parent training. In returning to the children's schools in the fall, pilot-study parents have been good advocates for continuity in their children's communication programs. While teachers, clinicians, and perhaps even school districts will change during a child's education, parents are typically consistent figures. By enhancing their understanding of and interest in communication, they could advocate for continuity and quality in the child's communication programming. Based on the children's rating scales and verbal reports, having parent support for augmentation seemed to have a positive impact on the children. However, preservation of the parent's participation suggests a need for maintaining psychology services to assist families with adaptedness issues as they relate to communication. Although there were clearly advantages to the intensive week-long PACT intervention, the need for ongoing intervention in the natural environment still exists. While both children and parents made significant gains on the Interaction Profile, both, and in particular the children, needed continued intervention to complete camp goals and move on to development of other target behaviors.

In view of these issues, a variety of service delivery models have been considered. One that attempts to address each issue might be accomplished through area educational-service center workshops with follow-up at the local school. In this model, clinician, parent, and child attend an intensive two-or three-day summer or Saturday series workshop at the regional service center for basic orientation. Subsequently, the clinician continues use of the communication guidelines through the child Individualized Educational Plan with either the parent or another partner in the natural environment. This model provides physical access to intensive training for a group of augmentative technique users, includes parent training, and makes use of the special-education system for long-term natural-environment training.

This model requires considerable organization involving administrative and parental support, which may be difficult to obtain. Alternatively ,clinicians could begin to use the PACT Guidelines within their current service delivery models. Informally, substantial gains have been noted in child function, mode, and discourse skills using the PACT Guidelines in a more traditional biweekly clinician-child intervention. However, with such applications, clinicians are cautioned to maintain copious records in monitoring progress.

RESEARCH ISSUES

There is still much to learn about communication and augmentation. The opportunities for research are unlimited and the need is incredible. In augmented interaction, further consideration of measurement procedures like the Interaction Profile is warranted. Greater understanding is needed regarding relative merits of factors such as video analysis; function, mode, and discourse behaviors; and ratings/counts of communication behaviors. Reliability and validity of these factors must be considered with clarification of how they relate to the goal of *functional communication.* Similar issues must be explored in evaluating the merits of the PACT Intervention Guidelines. However, it is only through careful documentation and report of clinical use of these and other procedures that further understanding can evolve. Both case-study and group-study information will contribute. We encourage participation in all efforts toward the most functional and rewarding communication possible for augmentative technique users.

REFERENCE

Suggs, S. J., and D. M. Culp. 1987. Partners in augmentative communication training—Case study. Paper presented to the Texas Speech-Language-Hearing Association Annual Convention, Fort Worth, TX.

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